

SPECIAL ECONOMIC DEVELOPMENT (SUSTAINABILITY / AGRICULTURE /  
FOOD / ENERGY) & INTERGOVERNMENTAL RELATIONS  
COMMITTEE MEETING  
WATER WORKSHOP

OCTOBER 9, 2014

The Special Economic Development (Sustainability / Agriculture / Food / Energy) & Intergovernmental Relations Committee Meeting, Water Workshop, of the Council of the County of Kaua'i was called to order by Mason K. Chock, Sr., Vice Chair, at the Council Chambers, 4396 Rice Street, Suite 201, Lihu'e, Kaua'i, on Thursday, October 9, 2014 at 1:13 p.m., after which the following members answered the call of the roll:

Honorable Mason K. Chock, Sr.  
Honorable Gary L. Hooser  
Honorable JoAnn A. Yukimura  
Honorable Tim Bynum, Ex-Officio Member  
Honorable Jay Furfaro, Ex-Officio Member (*present at 1:47 p.m.*)

Excused: Honorable Ross Kagawa  
Honorable Mel Rapozo

APPROVAL OF AGENDA.

Councilmember Yukimura moved for approval of the agenda as circulated, seconded by Councilmember Hooser, and carried by a vote of 3:0:2 (*Councilmember Kagawa and Councilmember Rapozo were excused*).

Committee Vice Chair Chock: We will have to take public comment as it is listed here on the agenda. So, we are going to have to do that. We have two (2). We have two (2) people signed up for it? Okay. So, the way public comment works, for those of you who do not know, is you get to speak up front on anything on the agenda. There is only one (1) thing, and then you do not get to come back to speak again after, alright?

PUBLIC COMMENT.

Pursuant to Council Rule 13(e), members of the public shall be allowed a total of eighteen (18) minutes on a first come, first served basis to speak on any agenda item. Each speaker shall be limited to three (3) minutes at the discretion of the Chair to discuss the agenda item and shall not be allowed additional time to speak during the meeting. This rule is designed to accommodate those who cannot be present throughout the meeting to speak when the agenda items are heard. After the conclusion of the eighteen (18) minutes, other members of the public shall be allowed to speak pursuant to Council Rule 12(e).

There being no objections, the rules were suspended to take public comment.

Committee Vice Chair Chock: We have first on the list, Gary Pierce. Mr. Pierce.

GARY PIERCE: Hi, for the record, my name is Gary Pierce. Kaua'i is blessed by abundant fresh water depending on what side of the island you are on. Transmission of the water has been usually the problem. Currently, there are ditch systems and tunnels that used to supply massive amounts of water to the sugar cane operations. Many are still used today for transmission and tourism with some of the older reservoirs having potential to generate hydroelectric power. Most or many of these water systems are on private lands, or most of them, with no adequate source of funding for ongoing maintenance, even decommissioning is very expensive. I am not advocating decommissioning, but if the infrastructure is lost under the present laws, none of these reservoirs, tunnels, and ditches could ever be reproduced and they would not be cost effective. These tunnels and ditches work, have worked for one hundred (100) years, and are an engineering marvel, which should be maintained and used for Kaua'i's self-sufficiency. In Kīlauea, the agricultural park needs water that used to come from the Kalihiwai Reservoir which could be used with the dry ditch culvert still under the highway, but it is about money, it is about easements, and it is about water rights. Hopefully this Council can address some of those issues as we go forward. I think it is very important. Since we are speaking about the runoff, on page 3 of the draft of the 2013-2014 Statewide Pesticide Sampling Pilot Project Water Quality Funding under key findings, atrazine and mediocre are the two (2) restricted use herbicides were detected on Kaua'i at agricultural sites downstream of seed crop locations. One location had levels that exceeded aquatic life guidelines. Hey, I am aquatic life. What happens if I swim in that water or take a drink? Atrazine is a known endocrine disrupter and has the possibility of affecting three (3) generations; the mother if she is pregnant, the daughter, and the mother in the daughters eggs. It is like thalidomide. What I am requesting is a resolution to the State of how to preserve a very important and old infrastructure. Streamline delineate water quality issues along with use, responsibility, and profit, and most importantly, who gets the money? Is it the State? Is it the County? The landowners if private? We have the new law, the Hawaiian Public Trust Doctrine. What affect will it have? How will this affect agriculture and our self-sufficiency? This should be linked, addressed, and worked into the general plan in future developments to prevent future expenses. Again, if this infrastructure is lost under our present laws, none of these reservoirs, tunnels, and ditches could ever be reproduced.

Also, with the dairy going in at Maha'ulepu, they are bio-generators which you can turn into methane gas and into electricity. It is not just a pilot project. They are at the University of Pennsylvania, herds of six hundred (600) to ten thousand (10,000) cows, and all of the manure goes into a sludge pit, produces gas, and the gas turns into electrical power. I do not have time. It is on the internet. You can go look that up. There are ways we can get around everything and to make lemons into lemonade. Fresh water will be the most imprint commodity in the future.

SCOTT K. SATO, Council Services Review Officer: Three (3) minutes.

Mr. Pierce: Or the control of water. Use this blessing...

Committee Vice Chair Chock: You can summarize.

Mr. Pierce: ...wisely.

Committee Vice Chair Chock: Go ahead and summarize.

Mr. Pierce:  
am saying. Thank you very much.

No, just use the blessing wisely. That is all I

Committee Vice Chair Chock: Thank you so much.

Councilmember Bynum: Thank you.

Committee Vice Chair Chock: Next up is Justine Duarte. Is that right?  
Justine.

JUSTINE DUARTE: Hi, my name is Justine Duarte. My public comment is actually focused towards the Department of Water. I believe that educating people is a great idea. My family has been here for a long time. My question more so pertains to the sixteen (16) inch pipe that comes from Kapa'a. Are we preserving water or are we sending it to Lihu'e? Where are our natural resources going? That is my question. If it is not going from Kapa'a to Lihu'e and it is going from Lihu'e back to Kapa'a, then I believe we should not have a water shortage, and somehow this should be looked into.

Committee Vice Chair Chock: *Mahalo.* Would anyone else like to speak at this time, public comment? Again, it is three (3) minutes. You can take it now. You will have a chance after. What I want to do is run through the actual presentation and then I will open up for public comment after. Would you like to speak now? Okay, good. Come up now, please. Just state your name for the record.

ELAINE EOFF: Elaine Eoff for the record. I would just like to ask that we have enough time to hear the presenters and without a lot of input from Council today because a lot of us are sacrificing time to be here. Also, I would like to ask them diversions and the fact that all of these heavy duty land leases were supposed to be returned to the kingdom, and they have continued. Not only that, they are abusing the land and diverting the water. So, how will the water diversions be addressed? How will they be reverted back to the way they are supposed to be? Water diversion.

Committee Vice Chair Chock: Thank you. After I introduce them, I promise I will not speak anymore. Anyone would like to speak on this item? If not, we are going to close our public comment period at this time.

There being no further testimony, the meeting was called back to order, and proceeded as follows:

Committee Vice Chair Chock: If we could actually have the next item read out loud.

Mr. Sato: We are on item (E), Water Workshop.

#### WATER WORKSHOP:

1. The Kaua'i County Council's Economic Development (Sustainability / Agriculture / Food / Energy) & Intergovernmental Relations Committee will hold a non-decision making, informational workshop to discuss water issues in Kaua'i's Puna District which have been raised by the community group Hui Ho'opulapula Na Wai o Puna ("Hui"). The Workshop is being held so that the Committee can become better informed and to engage the community in the broader issue.

Professor D. Kapua'ala Sproat, with the Ka Huli Ao Center for Excellence in Native Hawaiian Law and the Environmental Law Program at the University of Hawai'i at Mānoa, William S. Richardson School of Law and her students will be making a presentation.

The Office of Hawaiian Affairs has provided funding to Professor Sproat's Environmental Law Clinic this fall to assist the Hui and the County of Kaua'i in better understanding this issue.

Professor Sproat and her law students will present the following:

- Overview of water law in the Hawai'i State Constitution and State Water Code.
- Overview of the designation process for water management areas and the role of the Kaua'i County Council.

Also making a presentation will be Dr. Adam Asquith, from the University of Hawai'i at Mānoa Sea Grant program, who will provide an overview of water in South Puna and current conditions.

The Department of Water has also been invited to attend and share their input and feedback as it relates to the presentations being made during this Workshop.

Committee Vice Chair Chock: Great. If I could ask Professor Sproat to come up. Actually, Debbie, if you could take the main seat. I think we are going to hear from you first, and Adam. Adam, maybe you want to mention first...yes. There are speakers at each one. So, go ahead. Thank you for being here.

There being no objections, the rules were suspended.

DR. ADAM ASQUITH, University of Hawai'i (UH) at Mānoa Sea Grant program: Thank you for having us. We are going to let Aunty Debbie go first.

Committee Vice Chair Chock: Okay, good.

Committee Chair Hooser: If I could ask everyone to speak loudly. We have comments a lot of times from people watching from home and even myself and the audience sometimes have a hard time hearing. Thank you.

DEBBIE LEE JACKSON: My name is Debbie Lee Jackson. I am a taro farmer *kuleana* land in Hulē'ia, Kaua'i. My family has lived and farmed here for many hundreds of years. We are Hui Ho'opulapula Na Wai o Puna, and we are a group of *kuleana* landowners, *kuleana* lessees, taro farmers, fishermen, and Native Hawaiians seeking to preserve and restore the waters of Puna, Kaua'i so that our descendants can sustain themselves. To this end, we seek a reallocation and reservation of the waters of Puna to pertinent rights and the traditional and customary rights of Native Hawaiians before any other use is expanded or proposed. For over a year now, we have been meeting with water users and other groups to understand the current condition and uses of the waters of Puna. What we have learned is shocking. The Department of Water operates groundwater wells and purchases diverted stream water, which is completely linked to groundwater in the Lihū'e basin. Thus, the County, through the Department of Water, is a major

determiner of the current and future water balance in this area. We also believe that the Hui and the County have compatible goals in that both are concerned with protecting and prioritizing public trust uses of our water. The Department of Water has been very helpful in meeting with us and educating us about their water system, and we are very thankful for that. However, we have not had any recent communication from them or the other major water users in the Puna area. While we strongly believe that a local resolution to our water issue would be best for our community and consistent with traditional practice, the lack of response by water users requires us to seek a balance under the State Water Code. We believe that this State process under the Water Code is the appropriate one for managing our water in Puna because it requires us to examine and balance our use holistically rather than project by project, well by well, or diversion by diversion. We hope the County can support our petition requesting that South Puna, which is the Līhu'e basin generally, be designated as a ground surface water management area under State Water Code Hawai'i Revised Statutes (HRS) 174C-14. This designation will provide our community, including the County, with the proper tools for prioritizing and balancing the use of our waters.

We thank the Council for organizing this workshop after receiving our letter, and we hope that after hearing the details of the current water situation and the law, that you will recognize the need for a water management area. We hope that you would support our petition with a Resolution just as the Maui County Council did recently. I have copies of that Resolution for you. Thank you.

Dr. Asquith: Thank you Councilmembers. My name is Adam Asquith. I work part-time for the University of Hawai'i at Mānoa Sea Grant College program here on Kaua'i. I should probably confess that among my other duties as a citizen on Kaua'i, I farm taro and water from parts of Puna, not those waters under consideration here today. I am also a board member, a member of the East Kaua'i Water Users Cooperative which does have some responsibility for some of the ditches in the area that we are talking about today. So, being a resident and being human, I do come with my biases, but it is important for us to recognize that I do have those biases. I will try my hardest to just present the facts of them if I can, which is probably one the reasons I will read a lot of my testimony because if I adlib, I may waiver too far into the subjective side of the issue. It is an emotional and powerful issue, but my goal here today is to try to present just the information as to what the current situation is and interpret the science behind it. I am not a hydrologist. I am a biologist by training, but have been at it in various aspects long enough to hopefully understand the primary literature and speaking directly with those folks who have done the studies, hopefully, by that interpretation here today.

So, we are here today to help us better understand the water situation in South Puna so the Council can make an informed decision on whether to support the designation that the community is requesting. So, most of my presentation will be about facts and science, trying to understand what the current situation is. Part of my informal schooling here on Kaua'i, I have been repeatedly instructed that even when discussing the science of such an important topic as water, we need to give due deference to the protocol and the cultural aspect of it. I am not the person to do that. I might like myself if I have any culture, it is probably that of science. I have somebody here with my today I think can at least do it justice. If I can have my son Sean come up real quick. Just as an introduction.

SEAN ASQUITH: *"Aia i hea ka Wai a Kane? Aia i ka hikina a ka La, Puka i Ha'eha'e, Aia i laila ka Wai a Kane."*

*Aia i hea ka Wai a Kane? Aia i Kaulana a ka la, I ka pae opua i ke kai, Ea mai ana ma Nihoa, Ma ka mole mai o Lehua; Aia i Laila ka Wai a Kane.*

*Aia i hea ka Wai a Kane? Aia i ke kuahiwi, I ke kualono, I ke awawa, I ke kahawai; Aia I Laila ka Wai a Kane.*

*Aia i hea ka Wai a Kane? Aia i kai, i ka moana, I ke kualau, I ke anuenue, I ka punohu, I ka ua koko, I ke alewalewa; Aia i Laila ka Wai a Kane.*

*Aia i hea ka Wai a Kane? Aia i luna ka Wai a Kane. I ke ouli, I ke ao eleele, I ke ao panopano I ke ao popolo hua mea a Kane la, e! Aia i Laila ka Wai a Kane.*

*Aia i hea ka Wai a Kane? Aia i lalo, i ka honua, i ka wai hu, I ka wai kau a Kane me Kanaloa, He waipuna, he wai e inu, He wai e mana, He wai e ola, E ola no, ea."*

Dr. Asquith: So, it is not our place here today to go any deeper into the cultural aspect to water, but I think my son knows that chant because they do it every day at school. So, it is just a reminder that the cultural aspect of what we are talking about is very, very important. I would encourage the Council to, as you move forward with this issue, to give it due deference because it is a contemporary issue for many members of our community and not just a historical one. The relevance of the chant to our discussion today is at least two-fold. One is that it is an inquiry based learning tool, right? It repeatedly asked the question "Where are the waters of Kane?" The second is that the sequential answers go through the science of the water cycle, the hydrologic cycle, constantly reminding us that there is no single answer to the question. The water surrounds us in all of its forms and we use it in all of its forms, and reminding us again that we have to keep asking the question because the answers are many fold and the first answer we get is not necessarily either the right now or all inclusive. So, it is a good way to start the discussion, I think. Thank you.

So, my initial inquiry into water, at least in the Puna area, initiated probably two (2) years ago with the first kind of public hearing from the Department of Water on their horizontal well project that was proposed. Some of the community members there knowing me and my interest in water in the past, asked me to help them understand, wow, what is this idea? How is it going to affect me? So, with the limited time that I could give, I did some initial inquiry and realized it is a very complex problem and they were up against a real problem and looking for solutions to address that. The problem was not adequately addressed at that initial meeting, which left the community members, wow, wondering what is going on here? So, I think now we are at the point where, I think, we can better explain to the community what the fundamental problem is. So, let us begin our inquiry here today through a reminder of the question, where are the waters of Kane? Where are the waters of Puna?

So, this is a generalized model. I am going to have to use the pointer with this one. Does that work? No. There we go. I push the top on there? This is a generalized model of how groundwater moves and is stored on one (1) of our Hawaiian islands. If I can explain it here, rain falls in the mountains up here and in general, gravity wants to pull it down. So, it sinks down. These vertical lines here are models of dikes. These are hard, usually vertical impermeable lava structures within the rest of the island. If water falls down here, it still wants to move down, but it cannot move as fast. So, it will get trapped. These blue lines are at higher elevation than the ocean

down here. So, those are dike impounded perched water. An example here might be Makalea Springs. It is most certainly a dike impounded water source. Another type of water reservoir we have in this model, again as rain falls it moves down, it can move easily through this colored type of soil or lava when it hits other types of soils buried under there that prevent it from moving. Let us say this is impermeable, it is like a swimming pool. The water cannot move through it. That collects water. So, that is a perched aquifer that usually...then the water begins to move sideways and these tend to emerge as springs. An example, I am not sure, but something like the Garlinghouse Tunnel, which we know that historically greatly contributed to the flow of Nāwiliwili Stream here in Puna at virtually one (1) side. That is maybe an example of a perched aquifer.

Most of the water that falls as rainfall on most of the islands appears to move straight down and collect. This may be hard for folks to grasp. It collects within the island itself, actually at or below sea level. It pushes down the surface of the ocean. The ocean actually permeates right through the bottom of our island under water and under volcano, and it forms this huge basal aquifer. It cannot move into the saltwater. It begins to move laterally and most of it emerges outside the surface of the island under water in the ocean. So, that is a generalized model of how we understand from data, from really good data, on other islands how our water moves through our island systems. It was long believed that is the way water moved on Kaua'i also. So, the bottom of the island is a big lens of freshwater. We still understand, in general, is we suck water from a well in Līhu'e, it is not going to move very fast from water under Hanalei. So, the Commission on Water Resource Management, the State body that regulates our freshwater, has divided up on each island, portions of the island that they believe by surface features, represent groundwater compartments that should be guides as to how we manage the water in those areas. These are not generally, certainly on Kaua'i, they are not based upon data. They are based upon surface features. So, if you look at these sub-aquifers here, the area in question today is the Hanamā'ulu sub-aquifer, and it is defined by surface features which is the Haupu Mountain Range going up to Mount Kahili on the South and the South work on the Wailua River on the North. So, we have a mountain on the South and we have a deeply incised river valley on the North. So, it is unlikely, or they believe it is unlikely that groundwater would move very quickly from this area North to Wailua. So, this is a proposed suggested management unit for us. As a reminder, there is no real data to support these. We do have observation wells. The United State Geological Survey (USGS) has observation wells that help us understand what is happening within an aquifer, but we really do not understand how water might move from one sub-aquifer to another. So, this is the area that we are referring to as South Puna. It correlates to the sea warm groundwater management sub-aquifer of Hanamā'ulu. The modeled sustained yield for this sub-aquifer is thirty-six million (36,000,000) gallons per day (MGD). So, in each of those aquifers, they use a standard model called the modified Robust Analytical Model (RAM), to estimate mostly on rainfall and based upon that model that we just saw, how it moves downward, to estimate how much groundwater might be available to support our community without taxing the replenishment by the rainfall. That is the number that has been derived from that model. 36 MGD. So, theoretically, we should not need to worry. That is a lot of water. As we will talk about, based upon current date, it does not look like we are close to that number. So, we should be pretty safe. So, the obvious question then is, how much water are we pumping from this sub-aquifer.

The definition of sustainable yield, by the State, is the maximum rate at which water can be withdrawn from a water source without impairing the utility or quality

of the water source as determined by the Commission. Typically, the same yield reflects a percentage of the aquifers natural recharge, largely by rainfall. Hawai'i Water Plan in 2008, the Hanamā'ulu aquifer's recharge estimate; however, includes irrigation inputs due to the long history of sugarcane cultivation in this area. So, that 36 MGD number actually includes irrigation water that was brought into the aquifer and dispersed. So, we know that estimated sustainable yield includes water that is no longer being put on the land. That is an important clue going forward in understanding why we have a problem right now. So, this is the definition of sustained yield, but we know that it includes a water source that we no longer have. I will examine this more closely in a second. But even if we know the estimated yield number, we know it is going to be inaccurate. It is an estimate based upon a model, the model using an amount of water that is no longer available. We should at least be able to see how close we are to that number because the State requires that we report how much water we are using. So, based upon information that we could find, we believe this is the sixty-two (62) identified wells in South Puna or the Hanamā'ulu sub-aquifer, thirty-one (31) are reported as being active, sixteen (16) are County wells, nine (9) are irrigation wells, three (3) are domestic wells, two (2) are undesignated, and one (1) is an industrial well.

Another one of the problems in understanding the situation is not all of the water use is being reported as is required by the State. In 2007, only half of the active wells in the aquifer reported their monthly water use. In the intervening year, the reporting only got worse. In August of 2013, only six (6) wells out of those sixty-one (61) identified reported their water use. So, without reporting active wells, the groundwater extraction is impossible to determine. So, not only do we not know, we are not fully sure how many wells are even active. Those that are even active are not fully reporting. So, we do not know how much we are pumping.

Even those wells that are being reported, the State has identified that he metering that is being used is inaccurate and not sufficient. So, that is another reason that we cannot fully document how much water is being pumped out of the aquifer.

So, what this leads to is discrepancies in an estimated use or an estimated amount of water that being pumped. USGS has reported that Kaua'i, at least in 2005, the freshwater, and this is the whole island. The freshwater ground use was almost 3 MGD or 29 MGD. This is three (3) times that the County's 2005 reported used of eleven million (11,000,000) gallons a day. So, we have a three (3) full difference in reporting between Federal USGS agency and the County's reporting. So, determining the actual groundwater use in the Hanamā'ulu aquifer may be impossible with the current data, but it is clear that the County's reported use grossly underestimates the public's reliance on this important resource.

So, what about sustainable yield? Regardless of reporting inaccuracies, we should, even the high end of the pumpage rate is still way below the State's estimated sustainable yield of 36 MGD. So, we still should be alright. The total pump capacity in the Hanamā'ulu aquifer is 12.6 MGD. So, that is the total number of wells that have been identified in the aquifer if they were running kind of at capacity, that is how much they could...or at maximum efficiency, not total capacity. That is how much they could pump. So, that is still way below the State's modeled 36 MGD at sustainable yield. According to 2005 repots, the water use in the Hanamā'ulu aquifer was only 2 MGD or five percent (5%) of the sustainable yield number. In August 2013, the reported use in the Hanamā'ulu aquifer was just 0.3 MGD or one percent (1%). So, independent calculations are much higher than these, but they are still well below



that State modeled number. So, we should be safe. We should not be having any problems.

To those in the community who were at that first Department of Water horizontal well public hearing, they were shocked. Many were shocked to hear the proposed project, but the real news that they missed happened over ten (10) years ago. Here is an excerpt from a 2003 Garden Island newspaper. "The Department of Water needs as much water as Grove Farm does because three (3) Līhu'e wells have run dry," said Ed Tschupp, Department of Water Manager. "Consultants are looking at the feasibility of drilling existing wells deeper, but the Līhu'e area's hard rock means less well water but more surface water," he said. "The end of the sugar irrigation over two (2) years ago has meant less percolation of water to replenish the wells." Well, this does not sound like we have an abundance of groundwater even though that is what the sustainable yield model suggests. So, we have a discrepancy. The modeled amount suggests we should have an abundance of water. The reality of when they are drilling wells and pumping water is that they ran into problems, and this was over ten (10) year ago.

So, what is going on? Gosh. I cannot. I do not know if it shows the...let us see. Can we move that a little bit higher? Oh, I will just read it. So, anyway, the Water Department explained it to us in some literature that they made available to the community because they needed to explain why they were going to a new source. I do not have that portion of the flyer up on the screen, so I am just going to read it. Why is the Department of Water using surface water? Our current groundwater sources in Līhu'e, Hanamā'ulu, and Puhi are losing capacity and the new wells do not provide sufficient additional water for the current and future needs of the community.

*(Council Chair Furfaro was noted as present.)*

Dr. Asquith: In order to support further generations of Līhu'e, Hanamā'ulu, and Puhi residents, we need to find an alternative water source. Our current groundwater sources will not sustain us for the long term. Not having enough water prevents growth and contributes to the lack of affordable housing. So, the Water Department explained it to us. They did not explain the science behind it, but they actually understood the science and we will explain why. They were telling us, despite what the modeled sustainable yield is, the real world observations from the wells do not jive with the sustained yield. The wells were struggling to keep up providing the groundwater to the community. So, they began looking for another source.

It is really easy to observe that today. This is a graph taken from USGS website. This is one of their monitoring wells. This is the Kalepa Ridge well. This shows water levels in the well through time from 1976 to nearly the present. You can see the downward trend of the levels of water in that well.

Another example taken last week from the USGS website of one of their observation wells in the Kilohana. Again, water levels in the well through time dropping. So, these are real data from our wells that support the Department of Water's explanation that they are having trouble. Again, despite what the modeled number says, the wells are not responding like the model suggests they should.

Why is that? Well, nobody knew at that time. So, they did the right thing. I think they did a very good thing. They contracted the USGS to help to conduct a study to try to understand what was happening to the groundwater in the South

Līhu'e basin. This is taken from one of Scot Izuka published papers. Basically what it shows, it shows a map of the South Līhu'e basin. Let me see if I can kind of orient ourselves here. This is the Haupu Mountains here. This is the South fork of Wailua, Mountain Kahili going up to Kawaikini. This is Kilohana Crater right here and Kalapakī. So, what it shows, the colored areas are the areas that were irrigated by Līhu'e Plantation until they shut down in 1995. The blue areas are where they were doing furrow irrigation. As I understand it, Līhu'e Plantation was never fully converted to drip irrigation up until the time they shut down. So, these large blue areas were all being furrow irrigated in 1981. So, in addition to rainfall, these blue areas were contributing significant groundwater recharge up until 1981.

So, this is a model of the significant recharge area in the Līhu'e basin. Blue areas are areas of high recharge. The hot red areas are areas of low recharge to our aquifer. So, most of the rainfall falls *mauka*, and that is where most of our recharge occurs. As we move more *makai* in our drier areas, there is less rainfall and therefore, less recharge. We had these anomalies here the plantation was conducting furrow irrigation where we had significant recharge in these *makai* areas. This was in 1981. When the plantation ended and furrow irrigation ended, the recharge in these *makai* areas disappeared. Remember, the current model of that sustained yield for the aquifer includes those areas of recharge that have disappeared. So a reminder, the current sustainable yield model includes these areas of recharge that have now disappeared.

So, what happens when we have trouble finding something, finding the water? We begin putting in more wells. So, this is a graph that shows the number of wells in the Līhu'e basin through time. You can see how all of a sudden we encounter a water problem and we begin chasing it with more wells to no avail because those though each well that we put in begins to fail or does not produce at the estimated capacity.

Another example from Nonou Well. Water level through time. It begins crashing just as the plantation shuts down, despite the fact that they are pumping at the same rate. They are not pumping any more. They are not pumping. So, you might expect if you over pump a well, this might happen, but the pumping rates do not necessarily change in each of these wells, which means even at this pump rate, we are depleting the water at lease immediately around that well.

So, USGS scientists have also identified this discrepancy showing that the conventional model does not explain how water actually moves through the soil in South Puna. So, they developed a model that is specific for our area. So, I have to emphasize here that we are really fortunate that the Department of Water engaged the USGS because for most places in Hawai'i, we do not have the type of data and model that we do for here in the Līhu'e basin. We have a highly localized site specific model that matches the observed data from our observational wells. Let me see if I can point this out. So, again, this is the conventional model where rainfall falls on the island, mostly *mauka* areas. It wants to move down. Sometimes it encounters impermeable areas and it remains as perched. Sometimes it encounters impermeable soil layers, but it wants to move down to this basal freshwater lens. I put this up here again, to remind us that this model is what our sustainable yield number is based upon. The data does not support that.

So, USGS again. The upper line shows the...this is the conventional model. No, this is the conventional model. Again, water wants to move down. It can be impounded by dikes. It could be captured by impermeable layers, but it want to go

down here, and find its way to the ocean. It is a little bit hard to see. There is this upper layer here in the conventional model. It is an area with no groundwater. The shaded area here is where that groundwater occurs. So, when we put in wells, we drill through this upper area with no water to get down to this basal lens. The model developed by the USGS that is supported by the data show a very different way that water moves through the South Puna area. It begins to move down, but very slowly. Our soils in this area have low conductivity. That means the water does not move through them very easily or very quickly, and it starts moving laterally. So, instead of moving straight down to a basal aquifer, it just fills up almost to the top. Look at that. That shaded area represents the saturated area of soils in the Līhu'e basin, and it begins moving laterally. As it moves laterally, what it encounters are streams. So, when our streams cut through the vast plains outside here, it intersects this laterally moving water. This is very, very important to understand. Again, its distinction from the RAM model that the State uses to estimate our current sustained yield because it is based upon assumptions that the USGS now are basically telling us do not exist in the Līhu'e basin. So, I have been trying to think of a way to explain this both to the Council because it has taken me a long time to try to wrap my head around this not being a hydrologist, but after talking with Scot and kind of reading the papers, I am going to throw this out kind of as an analogy.

So, based upon a conventional model and on most islands, let us say the Big Island. We have very porous lava systems. Rain falls down and moves all the way to the bottom of the island, and is supported by the sea water down there. That is more like a big Slurpee cup at 7-Eleven. You just have this container, right, with a bunch of water in it. If you stick a straw in there and you begin drinking your big Slurpee or whatever, all of the water in that cup can all equally move toward that straw. So, you see the top of your fluid level in your cup go down as you suck on the straw. The model in the Līhu'e basin is not a big Slurpee. I think it is more equivalent to a shave ice. So, in a shave ice, you pour whatever it is, your mango on top, right? It saturates all of the ice. Now, if you stick a straw in partially through, not all the way to the bottom and you begin sucking, you will see that your mango disappear and you will just have white ice. That is how it is if I share with my kids. Then he hands me the shave ice and all I have is this white ice. There is no mango juice there. I believe that is what is happening in South Puna. We have a shave ice situation when the rain falls on top, it saturates almost to the surface, but when we put a well in we deplete that portion of shave ice right around the well and when you look at it, it is just ice. There is no mango juice. That is the model that is happening because we know, and here is the crazy thing about this model. When we look at it instead of the groundwater being all down here, look at this, it is saturated all the way to the top. We should have abundant water. What the USGS is telling us, we have more water than a conventional model. So, this is the dilemma of the people adrift on the ocean. Water, water everywhere and not a drop to drink because when we put a well in here and being sucking on our shave ice, we immediately deplete that mango juice right from around the straw area, and you have to move your straw. So, now, even though we have plenty of water, it is very difficult to get it out with any individual well because we suck it all out very quickly and the water cannot move laterally to fill that spot of shave ice to replenish that well. So, we have this conning our nature is just wicked, right? All of this water we are just replete with water and our current techniques of wells to deliver it fast enough and sustainable enough are not adequate.

So, the answer to why does the sustainable yield estimate does not match observations. So, a comparison of the base flow and recharge estimates of the southern Līhu'e basin indicates that the groundwater discharge to streams constitutes at least seventy-five percent (75%) of the estimated 4.76 cubic meters per

second ( $\text{m}^3/\text{s}$ ) of recharge in the southern Līhu'e basin. What does that mean? That is the scientists' message to us. What does that mean? It means that, remember in the model, our soils are saturated almost to the surface. So, what they are saying is that all of Līhu'e basin would be a swamp if it were not for the streams. The streams cut into that swamp, the water moves towards the streams, and drains the Līhu'e basin. So, what is happening is when we put a well in and suck on that water, those wells actually compete with the streams for that rainfall discharge because normally in a conventional model on another island, almost all of that rainfall moves downward and replenishes our aquifer. What the USGS is telling us is that in Līhu'e, it is totally different. Seventy-five percent (75%) of the rainfall that lands in this area moves sideways to be caught by streams and contributes to stream flows. Very, very different model.

So, the streams in size, that upper aquifer, they act as drains. The model and stream gauge data analysis both show that most of the groundwater flowing through the southern Līhu'e basin discharges in streams rather to the ocean. Remember in the conventional model, water moves down deep, then moves out under the beaches, and emerges in the ocean. Here, we have this really unique situation where the rainfall does not move down very deep. It moves laterally and replenishes our streams.

So, because of localized zones of depression around each well, increasing the number of wells, the USGS then conducted a study to determine the effects of groundwater removal on the stream flows in the Līhu'e basin. So, this chart shows that when we pump, we reduce stream flow. Notice, this is the estimated pump rates. So, they were modeling this. They said, let us say we pump one million (1,000,000) gallons a day. The total decrease in flow of this stream would be one million (1,000,000) gallons a day. So, this is based upon what he was talking about earlier about at least seventy percent (70%) of the rainfall that falls in Līhu'e goes to the streams. So, if we pump from that water, we are not taking it from the aquifer, we are taking it from the streams. So, we almost have a 1:1 correlation. So, when we pump, we are not pumping from this aquifer like they have on O'ahu. We are actually taking from the streams themselves because that is the water that feeds the streams.

Why is that? Well, if we look at our streams, this is not Hanalei. You do not go the Hanalei and you look up at Na Molokama, and you see water pouring off the top of the mountain in Puna. This is a model of Hanamā'ulu watershed. So, we can see that the top of Hanamā'ulu Stream originates only at Kilohana Crater. It does not go all the way to Mount Wai'ale'ale. So, even Hanamā'ulu Stream cannot receive rainfall from up top here. It is dependent upon rainfall in and around Kilohana Crater. Nāwiliwili Stream, likewise. The source is Kilohana Crater. Very localized rainfall and localized discharge. So, if we have a well here that is competing with that rainfall, it is taking directly from Nāwiliwili Stream. Pū'ali Stream is even smaller. Look at this. Pū'ali Stream originates in the Puhi area. Kilohana Crater is up here somewhere. Very localized source for its stream flow. So, comparing our water usage in Puna to the sustainable yield number for the aquifer is really meaningless because we now know that that water we pump does not come from the aquifer per se, it actually comes from these streams. What we should really be asking is how much water we can pump without over impacting these streams.

So, we cannot readily access this abundant water beneath our feet or beneath our land. How do we support the development of our community? Well, we can find a source somewhere else and bring the water to where we need it, which is what we have done. So, this led Grove Farm to build a treatment plant turning stream water

into drinking water. The USGS study has helped us understand where the well water comes from and what impact our wells are having on stream flows in the Līhu'e basin. We also should now look at where our surface derives stream water comes from and what impact it may be having on our streams.

So, Kaua'i is famous for it rains. *Hanohano Hanalei i ka ua nui*. But here are many days when we look up *mauka* in Puna to see Wai'ale'ale as a *'āina kumu wai*. This is what it looks like. A few days ago we had that. There are an equal number of days when we look up to the mountain and we have no streams pouring off the top of Wai'ale'ale. It is a complex situation. Most people do not know the island tilts toward the West. So, all of the water that falls on the top of Wai'ale'ale runs west to Olekele, Hanalei, Wainiha, and Wailua is left dry looking like this. So, we should be assessing the impact of our water usage based upon these periods of no rainfall in the Līhu'e basin. So, during these *māla'e* days with no rain, the upper parts of Wailua and Hule'ia River in Puna receive their waters only from those dike impounded waters that we saw in the model. Remember those vertical lines? They were holding water at a higher elevation. This is a shot from a helicopter, obviously, hovering over the Blue Hole area, which is at the base of Wai'ale'ale. So, look. There are no waterfalls on this day. Nothing coming off the top of the mountain. We only begin to see blue down here near the bottom. So, this is an example of that dike impounded water coming out of the base of Wai'ale'ale just beginning to feed the north fork of the Wailua River.

So, it is on days like this, again a *māla'e* day, no waterfall is coming off the top, but look. This is a shot of the north fork of the Wailua River. Still plenty of water coming out. It is coming out of those perched dike water sources. So, these are exactly the same waters that the Horizontal Well project proposed to tap. The same exact waters, right, because this is not rainfall nor is it that USGS modeled groundwater a little bit further *makai*. These are truly perched dike aquifer waters. So, what we forgotten however, is that there were folks who were aghast at the Department of Water's proposed project.

*(Council Chair Furfaro was noted as not present.)*

Dr. Asquith: What we forgotten as a community is that all of these waters and more, are already captured and diverted to commercial uses including our drinking water sources. What? You say how can this be? So, let us follow the water and find out how it gets to our faucet or toilet here in Līhu'e. This is a map the Office of Hawaiian Affairs (OHA) generated of the Puna area. Here is Kilohana Crater for reference. Each of these dots is a diversion. Each of the lines tying the dots together is a ditch. So, let us say we are here in Līhu'e. Our service water treatment plant is somewhere here in Puhi. We follow this diversion back through its ditch to this diversion, comes through the hydroelectric plant's diversion, the diversion ditch to ditch to ditch to ditch, all the way to the north fork of the Wailua River which drains Wai'ale'ale and Kawaikini. So, when you turn on the tap or flush the toilet in Līhu'e, some of that water is coming from Wai'ale'ale. So, not only should we look at where the water is coming from and how many diversions, we also should be looking at how those diversions are operated, what do they look like.

This is the first diversion on the north fork of the Wailua River on State property that is managed by Kaua'i Island Utility Cooperative (KIUC). This is the actual diversion itself. This is looking *mauka* towards Wai'ale'ale. This is the flow of the Wailua River above the diversion. This is looking *makai* downstream. The diversion, it takes one hundred percent (100%) of the water. On a *māla'e* with no

rain, there is no water in the north fork of the Wailua River. It all goes into the ditch, eventually finds its way to Līhu'e. Some of it finds its way to our drinking water source.

Another type of diversion that we have in South Puna as part of this system, instead of a model, instead of *pani*, instead of a dam, this is a diversion on the Hule'ia Stream, which is essentially a ditch right across the stream. They dug a ditch with a grade on it, it enters a tunnel, and the water falls. This is Hule'ia Stream coming from *mauka* trying to go *makai*. It all falls into this ditch and it is taken south to Kōloa. So, virtually all of the diversions that we have now sourced our drinking water from, take one hundred percent (100%) of the base flow of our streams.

So, the ditch systems are so complex and that is the most thing, that the water can be diverted from one stream and duped back into another at strategic spots to maintain commercial ventures. For example, most of the time the photo opt of Wailua Falls is a bit of a facade. If you go upstream a short ways from the falls, this is the entire flow of the mighty south fork of the Wailua River. Notice that this is the stream beds, the edge of the stream bed edge over here. All of this is permanent vegetation that is growing in because there is not water flowing in the stream itself.

So, now we have a situation where through good intention, good intention of focusing development in and around our existing residential and commercial areas, we have overtaxed our groundwater because we did not have the right model on which to base it. We do now. We have impacted the lower reaches of our smaller streams and now are diverting our upper levels stream systems to maintain sufficient water for growth.

So, this is critical to the County because we are soon to receive ownership of the drinking water system, surface water treatment system to feed the new growth that is being proposed, but we have not assessed the impact of our current well pumping on Kilohana derived streams like Nāwiliwili or the current stream diversion of our *mauka* streams. Our drinking water system has not bought in to a fully commercialized system of our surface water from hydroelectric generation to tourism to Kaiapa Reservoir which support cooling water the (inaudible) plant, corporate agriculture, and allows urban and commercial residential build out including sewage treatment and commercial recreation.

So, what might the County's role be in this? So, I need to make sure again, here I do not overstep my bounds of objectivity to the extent that I can limit myself. I think it is important to note that all of these uses that I just identified are legal and legitimate under State law. Typically, water issues are an exclusive jurisdiction of the State as a public trust, but in this case, the County is a major player as it has focused development in an area that has groundwater problems and is purchasing stream water or will soon operate the system that uses that stream water. The County has multiple roles. It is a water user itself, it is a developer, it promotes development in areas that it deems appropriate, it is a promoter of business, and a protector of public trust which we will hear more about. As in many issues, the County seeks to strive to achieve a balance. Fortunately, the State does have a mechanism that allows for that balanced outcome, particularly as it relates to water use.

So, in summary, we do not really know how much groundwater we are pumping from South Puna. The reported pumping is only a fraction of estimated sustainable yield, but this is inconsistent with the actual observations, our actions to find water,

and the official statements. So, we now understand that because of groundwater in South Puna behaves differently than the assumptions in the State model, water levels in wells are dropping, well pumping is reducing stream flows, the County has resorted to using streams for drinking water to support its development, neither groundwater usage nor stream usage is being fully reported to the State, and reducing stream flows effect the environmental, cultural, and social rights of other users. So, kind of in summary in my mind, the most compelling argument as to why the County needs to look at this situation very carefully and recognize that we probably have an issue that needs to be solved is that we either have a problem with groundwater in South Puna, which justifies the rather extreme action of using stream water for our drinking water, and through that action it probably triggers the State requirements for groundwater management area or we do not have a problem and we have taken water from streams for development and drinking water without examining the impact on users and the environment. So, it is hard to have our cake and eat it, right? We either have a problem and we have gone to the right source. We needed that new source, but in going to that source, it emphasizes that we have a problem with the groundwater or we went to that source when we did not need to. So, the County probably should identify why they are doing what they are doing so we can examine the problem. I will let Kapua take over and then we will take questions later. Thank you.

D. KAPUA'ALA SPROAT, Professor, Ka Huli Ao Center for Excellence in Native Hawaiian Law and the Environmental law Program at the University of Hawai'i at Mānoa, William S. Richardson School of Law: *Aloha mai kakou. Mahalo* for the great privilege of being here with all of you this afternoon. It is always so nice to find an excuse to come home. So, I am Kapua Sproat and I am a Professor at the University of Hawai'i at Mānoa's William S. Richardson School of Law. I am also the Director of the Environmental Law Clinic, and today I am very happy to be here with one of our post-Doctorate fellows, Reann Cobb-Adams, who is sitting in the back, as well as four (4) of our third year law students who will be graduating in May. Those are Kelsey Anderson, Sarah Sheffield, Joanna Zeigler, and Alana Bryant. All four (4) of them will be helping me with our presentation this afternoon. So, the Environmental Law Clinic is actually a course that is offered at the law school and it provides students like these here today, with the opportunity to practice practicing law. What we do is we work on a whole range of natural and cultural resource issues in the Environmental Law Clinic and provide services basically, free of charge. We are very happy to be here today with support from the Office of Hawaiian Affairs through their A'o Aku A'o Mai Initiative, which has provided funding for us to travel to islands beyond O'ahu and to help provide these legal services, especially on issues impacting our cultural resources. So, our task today especially in light of the great information that Adam has just provided, it to help provide some legal insight to the Council and others in our community to really understand these very important issues. So, our plan today is that I will share a little bit on the role and significance of water in pre-European contact Hawai'i. I will then turn things over to Kelsey who will describe the legal framework for water resource management in Hawai'i today. Then Alana will provide some information to better understand water management areas as well as the process for designating them. Then Sarah will detail the Public Trust and the Precautionary Principles and explain how these really inform County decision making. Finally, Joanna will share some additional lessons from Kaua'i Springs. Hopefully, at the end of all of that we will still have some time for questions and answers.

Like Adam, I think it is really important for us to start with our cultural context when attempting to understand really, any resource management issues in



Hawai'i, but water in particular, it is really important to go to the source. I think Sean and Adam have already done a marvelous job, but I just wanted to build on that slightly. I think *kānaka maoli* or Native Hawaiians have our own creation story like other indigenous people. That, the (inaudible), really ties us to the creation of all life in Hawai'i. There are many different perspectives on this, whole courses can be taught on it, but given our time constrain today, this is the one slide version. So, we believe that Papa and Wākea, our Earth mother and Sky father, came together and gave birth to the Hawaiian Islands. Then after all of our islands were born, Wākea had a child with Ho'ohōkūkālani. That child was stillborn, but where they buried it outside of their home, a *kalo* plant grew from its grave. Wākea and Ho'ohōkūkālani then had a second child, and that child was the first *kānaka maoli*, the first human child born here in these islands. This *mo'olelo* helps to explain our relationship as *Kānaka Maoli* to the land, to *kalo* which is not just our elder sibling, but our staple food, and really, to all of Hawai'i's natural and cultural resources. This relationship really creates a *kuleana*, both a responsibility and a privilege to care for these resources as a public trust for present and future generations.

Now, as I am sure you all know in 'Ōlelo Hawai'i, our mother tongue, our word for freshwater is *wai*. That word twice, *waiwai*, means values, but it also connotes wealth. The word *kānāwai* is the law. For me, it is really no coincidence that as people who live on really tiny islands in the middle of the Pacific Ocean, both wealth and the law were and continue to be defined by access to our freshwater resources. Now of course this makes complete sense when you consider a hydroelectric cycle, which Adam has already explained quite eloquently.

Now given freshwater's vital role in pre-European contact Hawai'i, *Ola I Ka Wai*. Water was a source of all life in our communities, and indeed as you can see from this depiction, free flowing streams were really at the center of our *maoli* communities. In the upper regions of the streams our communities got drinking water. As that water flowed from *mauka* to *makai*, that enable *kalo* cultivation, which was vital not just because it was a staple food of our people, but because it maintained that relationship to Hāloa and enabled people to *malama 'āina*. Now, again as water flowed from the mountains down to the ocean and we know this in particular given our situation here on Kaua'i, seeps down and helps to support our groundwater aquifers which today, provides the principle source of drinking for Hawai'i's most populated communities.

Now, as the water flows from *mauka* to *makai* it brings nutrients from the upland down into our *muliwai* area. It also provides a travel corridor for our native stream animals. This supported really productive estuaries and fisheries, which were a vital source of food for our people, especially during winter months. Now for us as *Kānaka Maoli*, this is just common sense, but obviously, this system of *ahupua'a* base resource management had compelling logic because it enabled us to support a population of people that was not much less than the number of people we have here in Hawai'i today, yet at this time, we were completely self-sufficient. In fact, before the arrival of Europeans in Hawai'i, every island except for O'ahu had more people living on it than we do today. Again, at that time, we were completely self-sufficient.

Now, given the vital role of freshwater in our Native Hawaiian communities, *kanawai*, or the law, literally developed around the management and use of our freshwater reassures. Again, the word *kanawai* can be literally translated as relating to water. In addition, water was a *kinolau* of Akua Kane. So, it was a physical embodiment of one (1) of the four (4) principle Gods of the Hawaiian pantheon. Because of this important spiritual connection, it was not something that could be



reduced to physical ownership. Instead, it was a resource that was managed for the good of the larger community.

Now, given this fundamental rule, when custom and tradition that really formed our laws in Hawai'i was reduced to writing. The first written Constitution in 1840, and even the Declaration of Rights of 1839 declared that the land along with its resources, was not the King's private property. Instead, it belonged to the Chiefs and the people in common, of whom the Kauikeaouli was really only the manager. We include this information on Native Hawaiian custom and law not just as important or curious background or historical information, but because it is the law. As you all well know, Hawai'i Revised Statutes (HRS) 1-1 adopts English and American common law except as it is modified by the judicial precedent of the Hawaiian Kingdom or Hawaiian custom and tradition. So, for us here in Hawai'i, indigenous custom and tradition provides an important background principle of property law.

Now, of course all of this change with the arrival of foreigners from the West beginning in at 1778. This created trend strains in our Native Hawaiian community in particular due to introduced diseases while the foreign demand for goods really fueled political instability. At the same time, Hawai'i's favorable climate and our year-round growing season really made it a hotspot for plantation agriculture, including sugar and pineapple. So, the key to the Plantation's success was access to freshwater and within a very short amount of time, massive irrigation systems like the ones we see here, were constructed on all of the major Hawaiian Islands to take water from wet windward predominantly *maoli* communities to the drier central and leeward Plains where they were used to support this agriculture. In addition, brown water wells were developed to supplement these surface water systems and water was quickly commodified. Instead of continuing to be respected as a *kinolau* of Akua Kane, it was taken for private profit.

Now, after about a century of plantation agriculture's monopoly over ground and surface water resources, a movement resurfaced in the 1960s and 1970s to return these public resources to public management and control. One critical aspect of this was that with Statehood in 1959, Judges like the one you see here, Chief Justice William S. Richardson, the namesake of our fine law school. These Judges were appointed locally as opposed to being appointed from Washington D.C. So, these Judges were for the most part, better versed in Hawaiian culture and tradition, which has you all know, provides as key basis for our laws.

Now, the 1978 Constitutional amendments made changes in a wide range of areas, everything from worker's rights and education to natural resource protection and beyond. As is most relevant to our discussion today, the Constitution was amended to protect Native Hawaiian culture and practices. It also established a framework for water resource management in Hawai'i today. I should note here that in the context of water issues in particular, that Native Hawaiian tradition and customary practices area often implicated, and the two (2) go hand in hand. So, with that, I will turn things over to Kelsey.

KELSEY ANDERSON: Good afternoon. My name is Kelsey Anderson and I am a third year law student at the William S. Richardson School of Law. I am here today to just give you a brief introduction to the Constitution and the Water Code. The Water Law in Hawai'i has four (4) main parts: the Constitution, the Hawai'i Revised Statutes Chapter 174C and the State Water Code, as well as the Hawai'i Administrative Rules (HAR) Chapters 13-167 to 171, and finally case law in

Hawai'i. I am not going to be covering today the rules as they are beyond the scope of today's representation or the pertinent roles already covered by statutes that we will be discussing. As far as case law, that consist of the decisions of the Hawai'i Intermediate Court of Appeals and the Hawai'i Supreme Court, which Joanna and Sarah will be discussing in further detail.

A brief overview of what I will covering is the Constitutional basis for water management in Hawai'i, the Commission on Water Resource Management, and finally ending with the State Water Code.

So, again the Constitutional basis for water management in Hawai'i. Article XI, Section I of the Constitution requires that the State and its political subdivisions, mainly the Counties, must conserve and protect Hawai'i's natural beauty and all natural resources, and promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. Article XI, Section I goes on to say that all public natural resources are held in trust by the State for the benefit of the people.

In Article XI, Section VII it specifically addresses Hawai'i's water resources. It provides that the State has an obligation to protect, control, and regulate the use of Hawai'i's water resources for the benefit of its people.

Finally, Article XII, Section VII provides that the State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes, including the cultivation of *kalo*.

Next, I will be addressing the Commission on Water Resource Management. The Commission was established by Article XI, Section VII and it falls under the Department of Land and Natural Resources. It has a number of responsibilities. I have only pulled out a few for you today. The Commission is responsible for the administration of the State Water Code, it designated water management areas, and sets standards to protect ground and surface water. There are seven (7) members of the Commission, two (2) of whom are ex-officio, that is Department of Land and Natural Resources Director William Aila, Department of Health Director, Linda Rosen, as well as five (5) additional members that are appointed by the Governor and selected by a nominating Committee. All of the members are required to have substantial experience in water resource management and at least one (1) is required to have significant experience in Native Hawaiian rights and traditions. That member is Jonathan Starr, pictured in the middle bottom. The other members of the Commission are Dr. Kamana Beamer, Michael Buck, and Milton Pavao. There is one (1) member currently not appointed at the moment, and the Commission is working to fill that position. I also wanted to raise for the Council's attention, that there is currently no representation from Kaua'i on the Commission, and they may want to consider encouraging people to apply in the future.

Moving on to the State Water Code. The Water Code is complex and detailed so this is only a brief overview with a focus on issues before the Council. I wanted to begin with how we should interpret the State Water Code. So, the legislature has added a specific provision to the Code explaining that although the Code should be liberally interpreted to obtain maximum use for purposes like domestic and commercial use, adequate provision must also be made for factors such as traditional and customary Hawaiian rights and the presentation and enhancement of waters of the State for municipal purposes. The State Water Code also specifically recognizes that the waters in Hawai'i are held for the benefit of the citizens of the State, and

that the citizens have a right to have the waters protected for their use. The Water Code regulates a number of areas including investigation and research of water use, management of water use, permit requirements, and regulation of wells and stream diversions.

The Water Code manages water in different ways depending on whether or not it is tapped above or below ground. We are going to begin with surface water. Surface water can be natural or manmade waterways. They include streams, lakes, reservoirs, coastal waters, as well as diffused surface water which means water occurring upon the surface of the ground, but that are not contained within a water body.

So, the Commission regulates surface water in a number of ways. It is required to establish Instream Flow Standards (IFSs), which are the minimum amount of stream flow necessary to protect the public interest in a particular stream. To do this, the Commission takes into account uses like fishing, recreation, and wildlife protection, and establishes these standards on a stream by stream basis. However, the Water Commission has not adopted an Instream Flow Standard for any stream in Hawai'i. The Commission is also required to establish Interim Instream Flow Standards (IIFs), which are similar to Instream Flow Standards, but are more flexible. The Commission has adopted as Interim Instream Flow Standards, the amount of water that happen to be in a stream on a particular date regardless of whether it was sufficient to protect the public interest and the community uses. For Kaua'i, Kaua'i's Interim Instream Flow Standards were set as the amount of water flowing in a stream as of October 8, 1988. So, that is twenty-six (26) years ago as of yesterday, and no Interim Instream Flow Standards have been updated for any stream on Kaua'i. The Commission...

Councilmember Yukimura: What was that date?

Ms. Anderson: October 8, 1988.

Councilmember Yukimura: Thank you.

Ms. Anderson: The Commission also requires that owners and operators register existing stream diversions and that they maintain reporting devices, and that these owners and operators submit monthly reports of total water use. New stream diversions alterations, and abandoned stream diversions also must be permitted.

Moving on to groundwater. Groundwater is treated differently from surface water surface water under the Code. Groundwater is any water found beneath the surface of the Earth, and can be found as Adam previously mentioned, in dikes as well as underground channels or in other forms. As he discussed, groundwater can flow out of the ground to form freshwater site and fees are reverted into streams. So, we can see that groundwater and surface water are interconnected.

The Commission regulates groundwater in ways that parallel surface water. The Commission is required to establish sustainable yields which is the maximum rate at which water may be withdrawn from a water source without impairing the utility or quality of the water source as determined by the Commission. So, in other words, this is the maximum amount of water that can be taken from an aquifer over a specific period of time without damaging the aquifer. The Commission initially overestimated the amount of water that could be safely withdrawn, and those

numbers are currently being updated. Owners and operators are again, are required to register their existing wells, to provide monthly reports or total water use, and to permit well construction or pump installations as well as well abandonment.

You have seen this slide before, but again, this is the hydrologic units of Kaua'i. It is a coding system to describe groundwater resources and a reference system as Adam previously discussed.

Finally, I wanted to provide you with a list of provisions of the Water Code that deal with designation, and Alana will be discussing designation in greater depth. Thank you.

ALANA BRYANT: *Aloha.* My name is Alana Bryant and I am also a third year law student. I am going to be telling you the designation process for water management areas. So, this portion of the presentation is going to answer these three (3) questions: what is designation, what is the designation process, and what happens after designation? Designation is a legal process under the Water Code which creates areas where additional permitting requirements are necessary for consumptive uses of water. Designation creates either groundwater management areas or surface water management areas. Designation is a first step towards implementing the management framework needed to control water use and withdrawals. Under the Water Code, designation is required when a resource is or may be threatened by existing or proposed withdrawals or diversions of water.

This is an overview of the steps of the designation process. I am going to go over each of these steps, but here is a petition, consultation, investigation, recommendation, public hearing, Findings of Fact, and then finally a decision on whether or not a designation will be made.

So, first is the petition. The designation process can be initiated either by the Water Commission Chairperson or by an interested member of the public. If it is initiated by a member of the public, then there must be a written petition.

Once there is a petition, the Chair then must consult with the County Council and the County Mayor as to whether designation should be recommended to the Water Commission, and that has to be done within sixty (60) days of receiving that petition. This consultation is an integral part of making a sound decision regarding a designation petition.

Then there is investigation. Investigation ensures that the Commission has enough information to make an informed decision regarding the designation. It can include any scientific investigation or report deemed necessary, and the studies can be done cooperatively with an appropriate Federal or County water agency, including the Department of Water Supply. One thing to consider with investigation is it is even more important on Kaua'i because there has been limited data on water use. Like we heard earlier, reporting on withdrawals from the wells may or may not be inaccurate. So, investigation is really important here.

The next step is recommendation. The Chair makes a recommendation for or against the proposed designation to the Commission, and ultimately, the Commission votes on that recommendation.

If the Commission accepts a recommendation to designate, the Commission then holds a public hearing in the vicinity of the area proposed for designation. The purpose of this public hearing is to give the community, and especially the

landowners and water users who might be affected by the designation, a venue to voice their opinion on whether or not there should be a designation.

After the public hearing, the Water Commissions staff prepares a Findings of Fact (FOF), which is then presented back to the Commission. The Findings of Fact are used by the Commission to make its ultimate decision. In the Findings of Fact, it addresses the eight (8) criteria that have to be used when evaluating proposed groundwater management areas. These are the first four (4) of those criteria. The Commission has to consider each one of them when it makes a decision, but only one (1) of the criteria out of the eight (8) needs to be met to justify a designation. On Kaua'i, we are especially concerned with the third one, which is whether regulation is necessary to preserve the diminishing groundwater supply for future needs, as evidenced by excessively declining groundwater levels. These are the next four (4) of the criteria. Again, all eight (8) must be considered, but only one (1) needs to be met. Again, on Kaua'i, we are concerned with the sixth and seventh one which are whether excessive preventable waste of groundwater is occurring or whether serious disputes respecting the use of groundwater resources are occurring.

These are three (3) criteria for surface water designation. There is obviously fewer criteria on the list, but you should note that both lists both include serious disputes respecting the use of water resources. So, water use disputes can play a major role in the designation of water management areas.

The last step of the process is the actual decision. The Commission has to make a decision regarding designation within ninety (90) days of the Chair's recommendation. If the Commission decides to designate, public notice must be given in the County where the designation is occurring.

What happens after designation? So, public notice of the Commission's decision to designate signals the beginning of the Water Use Permit process. This map shows the current groundwater management areas in Hawai'i. It includes all of O'ahu except for Waianae, the entire island of Moloka'i, and the Iao aquifer on Maui. This is the only surface water management area in Hawai'i. It is in the Waieha area on Maui, which was designated as the first surface water management area in April 2008. Once an area like this has been designated, water users in the area have to apply for Water Use Permits. This area specifically was designated because of serious disputes respecting the use of water.

Water Use Permits are required by anyone seeking to continue or begin consumptive uses of water in a water management area. The applicant for the permit bears the burden of establishing that their uses comply with the permitting requirements of water management areas. There is no permit requirement for domestic consumption or for water catchment systems in a designated area.

Existing users in an area generally have priority over new users, but public trust purposes and existing uses always have priority over private commercial users. Sarah is going to go into more detail about public trust purposes.

The key takeaways of this presentation are that there are a lot of benefits of water management areas and they include better water management, a more open process with information on current and future uses, an opportunity for community input, and it is also an opportunity to revisit current water allocations and make sure that all uses apply with the current law. Sometimes there are drawbacks too.

Drawbacks can include that permitting can be very time consuming and labor intensive, and it can also necessitate the use of legal counsel.

An important thing for you all to remember is that the Water Commission Chair will ultimately be consulting with the County Council and the Mayor as to whether or not there should be a designation. It is important to have an understanding of the eight (8) criteria for groundwater management areas so that you have the necessary tools to access the petition and decide if designation is necessary. Sarah and Joanna are also going to be giving more information about the public trust and how that also informs the County's decision making.

Finally, this is a quote from the Waiāhole case that really explains the County's and the Water Commission's responsibility. It says, "The State Water Commission must not relegate itself to the role of a mere umpire passively calling balls and strikes for adversaries appearing before it, but instead must take the initiative in considering, protecting, and advancing public rights in the resource at every stage of the planning and decision making process." Next, Sarah is going to explain the importance of the Public Trust Doctrine. Thank you.

SARAH SHEFFIELD: *Aloha* everyone. My name is Sarah Sheffield and my section of this presentation will cover the Public Trust and the Precautionary Principle. I will begin by overviewing the origins and history and the Public Trust in Hawai'i, I will discuss the key cases relating to the Public Trust, and then describe the trustees' obligations under the Public Trust doctrine. I will follow a similar path for the Precautionary Principle describing the origins both internationally and locally of the Precautionary Principle, I will talk about the key case relating to the Principle, Waiāhole, and then discuss the trustee's obligations under the Precautionary Principle.

So, beginning with the Public Trust. The Public Trust is an ancient doctrine dating back to Roman law. Historically, the Public Trust Doctrine acted as a limitation on the alienation of certain resources by the government. It was first recognized by the United States by the United State Supreme Court in Illinois Central Railroad v. Illinois in 1892, which applied the doctrine to tidal and navigable waters and the submerged lands beneath them. Since the Illinois case, the Public Trust Doctrine has been applied to numerous other natural resources, including wildlife, habitat, and recreational resources. As Professor Sproat outlined earlier, public trust principles can also be traced to ancient Hawai'i, specifically when it comes to water resources. In Hawai'i, the Public Trust concept originated in Native Hawaiian custom and tradition. Freshwater was critical for drinking, for supporting traditional agriculture and aquaculture, and for sporting productive estuaries and fisheries. Freshwater was also the physical manifestation of Kane, one (1) of the four (4) principle *akua* of the Hawaiian religion. Given this spiritual and life sustaining significance, water was never treated as a commodity that could be reduce to physical ownership. Instead, it was as resource managed for the benefit of the community as a whole, but these Public Trust principles began to erode with the influx of westerners and the privatization of water. This erosion of Public Trust principles accelerated with the introduction of the sugar cane industry. These principles began to reemerge with the King v. O'ahu Railway case in 1899 where the Supreme Court of the Territory of Hawai'i found that the people of Hawai'i hold the absolute rights to all of it navigable waters and the soils under them for their own common use. The King case did not apply to fresh water however, and it was not until 1973 with the McBryde case that application of Public Trust principles for freshwater resources began to reemerge in Hawai'i. The Hawai'i Supreme Court relied on Hawai'i custom and

kingdom law to reinstate the original concept of water as “reserved for the people of Hawai‘i for their common good.”

The 1978 Constitutional Convention constitutionalized the Public Trust. It states in part, “Article XI, Section I and Article XI, Section VII adopt the Public Trust Doctrine as a fundamental principle of constitutional law in Hawai‘i.” The 1978 Constitutional Convention also established the Commission on Water Resources Management as the primary guardian of the Public Trust over all of Hawai‘i’s water resources. The State Water Code also incorporates Public Trust principles.

Despite all of these developments with the Public Trust Doctrine, it was not until the year 2000 with the landmark Waiāhole case that the Public Trust as it relates to water resources was truly flushed out. To give you a bit of a background on this case, O‘ahu’s Sugar Company operated for over a century on the windward side of O‘ahu. Over the years, it constructed a complicated ditch system to channel water from the windward side to sugar cane fields on the leeward side. Between 1995 and 1996, O‘ahu Sugar Company shut down and windward community members filed a petition requesting the return of all of the water still being taken from windward streams. This petition was opposed by private companies as well as by the State, and years of litigation ensued. Finally in 2000, the Hawai‘i Supreme Court ruled and firmly established the Public Trust Doctrine as a fundamental principle of Constitutional law in Hawai‘i so important that even the legislature cannot abolish it. The Supreme Court established that the Public Trust as it relates to water resources in Hawai‘i, embodies a dual mandate of protection and maximum reasonable and beneficial use. The protection prong mandates that the State has a duty to ensure the purity and flow of water resources for future generations. The maximum reasonable and beneficial use prong mandates that the State has a duty to promote the reasonable and beneficial use of water resources in order to maximize their social and economic benefits for the people of the State. The Supreme Court established that resource protection also constitutes a use and that the Public Trust Doctrine establishes affirmative duty to take the Public Trust into account in planning an allocation of water resources, and to protect Public Trust uses whenever feasible.

So, what are Public Trust uses or purposes? Waiāhole established that resource protection, Native Hawaiian traditional and customary practices, appurtenant rights, and domestic water use are public trust purposes. It is important to not here that in the context of the Public Trust Doctrine, domestic use means individual household needs and does not cover municipal water supplies. The Supreme Court further held in 2004, that Department of Hawaiian Homeland Water Reservations are also considered a public trust purpose. These public trust purposes have priority over other types of uses. This means that there is a presumption in favor of trust purposes and that the burden is on the Commission, the County, and the commercial user to justify commercial uses.

*(Council Chair Furfaro was noted as present.)*

Ms. Sheffield: In 2006, the Hawai‘i Supreme Court decided another case relating to the Public trust Doctrine. This case originated on the Kona coast of the Big Island where community groups sued the County of Hawai‘i and the Department of Health (DOH) for violating the Public Trust Doctrine by failing to prevent a developer, 1250 Oceanside, from violating water quality standards. The court held that the County has a duty under the Public Trust Doctrine to conserve and protect Hawai‘i water resources and to ensure the continued availability and

existence of its water resources for present and further generations. This ruling is important because it established that the County has a duty under the Public Trust Doctrine.

To give you a few takeaways as we wrap up the Public Trust section, under Hawai'i law, surface and groundwater are held in Public Trust for the benefit of the people of Hawai'i. The State and Counties have a duty to protect water resources. Public Trust purposes have priority over private commercial uses. Public Trust establishes an affirmative duty to take the public trust into account in the planning and allocation of water resources and to protect public trust uses whenever feasible. Agencies may compromise public rights in the source pursuant only to a decision made with the high priority these rights command under the law of our State. So, this wraps up the Public Trust section, and now I will be shifting gears and talking about the Precautionary Principle.

The Precautionary Principle emerged in the 1980s as an approach of caution espoused by environmentalists. It was formally recognized by the international community in 1992 at the United Nations Earth Summit held in Rio de Janeiro. It was codified as Principle 15 of the Rio Declaration, and reads in part, "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

The Precautionary Principle emerged in Hawai'i with the seminal Water Rights case we have already discussed, Waiāhole. Waiāhole established the Precautionary Principle under Hawai'i law. The Supreme Court adopted portions of the language found in the Rio Declaration when it said that the lack of full scientific certainty shall not be used as a basis for postponing effective measures to prevent environmental degradation, and at a minimum, the absence affirms scientific proof should not tie the Commission's hands in adopting reasonable measures designed the further the public interest. Waiāhole established that trustees have a duty under the Precautionary Principle where scientific uncertainty exists, a trustee's duty to protect the resource mitigates in favor of choosing presumptions that also protect the resource. So, the Precautionary Principle restated the trustee's duties under the Hawai'i Constitution and prevents trustees from hiding behind scientific uncertainty to justify inaction.

Some key takeaways for the Precautionary Principle. The Precautionary Principle is recognized under Hawai'i law, and it mandates that a trustee go forward with measures to protect the environment and public trust purposes despite scientific uncertainty.

To conclude, I would like to leave you with some final thoughts. The Public Trust Doctrine and Precautionary Principle can be seen as a prism through which members of State and County agencies must examine their responsibilities under specific laws that agency is charged with enforcing. Finally, agencies must hold permit applications to their burdens of proof and actively protect and conserve water resources for Public Trust purposes. Next, Joanna will be talking about Public Trust purposes and how they relate in the Kaua'i Springs decision. Thank you.

JOANNA ZEIGLER: Good afternoon. I am Joanna Zeigler and I am also a third year law student at the William S. Richardson School of Law. My portion of the presentation concentrates on the recent Hawai'i Supreme Court case, Kaua'i Springs vs. the Planning Commission of the County of Kaua'i. I am presenting



with the understanding that many of you have been briefed by David Minkin on this topic. So, I will do my best to briefly present the background and then move to the main principles as they relate to our conversation today. In this case, the Hawai'i Supreme Court does a good job of distilling down the important principles that a trustee needs to know when evaluating a situation where there is a Public Trust use. Trustees in this case include not just the County, but the Councilmembers themselves, the Mayor's Office, and the Department of Water Supply.

I will go through a brief background of the case, move in to the main principles, and then tie Kaua'i Springs back into the bigger picture that we are looking at today, which is water management designation. So, Kaua'i Springs is a water bottling company and the Planning Commission was considering application permits. So, it is located in Kōloa, Kaua'i, and the source of the water comes from Kahili Mountain, and the water is purchased from Knudsen Trust. Kaua'i Springs was requesting three (3) zoning permits and they are located in an agriculturally zoned area. So, these permits would allow them to operate their facility legally, and they were also requesting to increase their water bottling capacity from between three hundred (300) gallon to five hundred (500) gallon five (5) gallon bottle per week to one thousand (1,000) five (5) gallon bottles per day, which would be thirty-five thousand (35,000) gallons per week.

The process started with the Planning Commission who denied the permits, and then went to the Circuit Court who ruled in favor of Kaua'i Springs. Next, the Intermediate Court of Appeals vacated the Circuit Court, and finally, the Supreme Court affirmed the Intermediate Court of Appeals.

What happens now after the Supreme Court's decision? The Supreme Court remanded the case to the Planning Commission and the Planning Commission must clarify its Findings of Fact and conclusions of law regarding the public trust. The Supreme Court stated that the Commission's findings of Fact were not erroneous and the conclusions of law were actually correct and therefore, their decision to deny the permits was not arbitrary and capricious. Nevertheless, the completeness of the Commission's Findings of Fact and conclusions of law are essential when they are performing as a trustee. In this case, the court quoted Waiāhole stating that the "Clarity and the agency's decision is all the more essential...where the agency performs as a public trustee and is duty bound to demonstrate that it has properly exercised the discretion vested in it by the Constitution and the State."

Moving to the main principles of the case. The court identified three (3) principles that provide a framework for the Public Trust Doctrine. First, the court states that "The authority of the State and its political subdivisions precludes any grant or assertion of vested rights to use water to the detriment of public trust purposes and empowers the State to reexamine any prior use." In other words, "no person or entity has automatic vested rights to water." Second, the court stated, that "The public trust creates an affirmative duty of the State and its political subdivisions to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible." Third, "There are no absolute priorities between uses under the public trust, so the State and its subdivisions must weigh competing public and private water uses on a case-by-case basis according to any standards applicable by law."

As a review from Sarah's presentation, these are a list of public trust uses that are protected, and noting that domestic water use does not include municipalities. Therefore, the County drinking water system is not a public trust use. Also, private

and commercial uses such as Kaua'i Springs water bottling facility, is not a protected public trust.

The court identified six (6) main obligations for agencies under the Public Trust Doctrine. These must be followed in considering any decision making process for any application. In the case of Kaua'i Springs, it was an application for zoning. However, it would be the same analysis if this had been a groundwater management area. So, on remand from the Supreme Court, the Planning Commission must go through each of these obligations in order to create a thorough record. So, first, the agency's duty and authority is to maintain the purity and flow of our waters for future generations and to assure that the waters of our land are put to reasonable and beneficial use. An agency must determine whether the proposed use is consistent with trust purposes, and an agency is to apply a presumption in favor of public use, access, enjoyment, and resource protection. An agency should evaluate each proposal for use on a case-by-case basis, recognizing that there can be no vested rights in the use of public water; if the request use is private or commercial, the agency should apply a high level of scrutiny; and an agency should evaluate the proposed use under a reasonable and beneficial use standard, which requires examination of the proposed use in relation to other public and private uses.

Next, applicants have the burden to justify the proposed water use. So, the court identified what an applicant must demonstrate. The applicant must demonstrate actual water needs and the propriety of draining water from public streams to satisfy those needs; the applicant must demonstrate absence of practicable alternatives; the applicant must demonstrate no harm in fact to public trust purposes or that the use is nevertheless reasonable and beneficial; and if the impact is found to be reasonable and beneficial, the applicant must implement reasonable measures to mitigate the cumulative impact of existing proposed diversions on trust purposes, if the proposed use is to be approved. Thus, in the case of Kaua'i Springs, they must demonstrate all of these criteria.

In conclusion, Kaua'i Springs outlines the Public Trust framework for all agency actions, the Public Trust Doctrine provide independent authority for examining resource use, and every agency must incorporate the public trust when applying its own laws.

Finally, bringing this back to the designation process, if Kaua'i Springs had been in a designated area, they would have had to apply for a Water Use Permit and the Water Code, case law, the Public Trust Doctrine, and the Precautionary Principle would supply the analysis on whether to issue a permit. So, it is important to look at the reality of the situation. The designation process is helpful because it provides a toll to implement the Water Code and it also may protect water resources, but there is no denying that the designation would require more permitting because all uses of water would require a permit in a groundwater management area. So, thank you very much for your time, and I hope this information was helpful. At this time, we would like to welcome any questions or comments.

There being no objections, the meeting was called back to order, and proceeded as follows:

Committee Vice Chair Chock: Thank you for your presentation everyone who contributed. It was very informative. If we can get the lights real quick. This is what I would like to do Councilmembers. I know that some questions have been generated and I also want to include the public and offer some time if they would like

to state an interest or I few have time to move in the direction of question. Because this is a workshop and it had a stated end time of 4:00 p.m., we have to honor that. So, what I would like to do is call for a recess and a caption break here for five (5) minutes, and...ten (10) minutes. Do I need ten (10) minutes? Ten (10) minute break. Okay, we will give you ten (10) minutes. Those of you interested in coming up and speaking or asking questions, I am going to decide depending on how many speakers we have from the public if we are going to take questions or not, but we will take questions and may not get to answer, but we will collect them. It is going to be again, determinant on how many people sign up. I am going to come back from our break, we will have a round of questions and answers (Q&A) with Councilmembers, go to the public, and I would like to also offer the Administration and the Water Department in closing. So, if that is okay, we will take a recess right now. Thank you again.

There being no objections, the meeting recessed at 3:04 p.m.

The meeting reconvened at 3:43 p.m., and proceeded as follows:

Committee Vice Chair Chock: We are back from our recess, and I just again want to thank our presenters for sharing their *mana'o*. We have about nine (9) people signed up to offer some testimony and insight. We will get there, but what I wanted to do is a round of questions. So, Councilmembers, keeping that in mind and we have some people that want to speak. I would like to ask again, the public who signed up is we are not going to get to answering questions, but we would like to be able to hear the questions at this time. I think there is an intention for this body to continue this conversation. This is just the beginning of a conversation. Of course there is a lot more that we need to hear back from our Water Department and other agencies involved in this process. With that, I would like to just open it up for questions from Councilmembers first. Do we have any questions? Councilmember Yukimura.

There being no objections, the rules were suspended.

Councilmember Yukimura: Okay. Thank you, Chair, and *aloha* everyone, especially to our presenters, Adam and Professor Sproat. I am actually so excited. I knew Kapua when she was a little girl and actually represented her parents in a lawsuit or an appearance before a Planning Commission.

Ms. Sproat: And look what happened.

Councilmember Yukimura: But it is very exciting to see and to hear all of the law students as well. I was interested in the designation process. I guess you will answer the questions maybe.

Ms. Sproat: Sure.

Councilmember Yukimura: The petition process is initiated by the Chair of the Water Commission. What role...

Ms. Sproat: The petition process can be initiated either by the Chair of the Water Commission or by any interested member of the public. If it is done by a community member as opposed to an action by the Commission Chair itself, then that would require a written petition.

Councilmember Yukimura: Okay, and in the process of deciding whether designation is appropriate and in collecting data for it, can the Water Commission require recording of withdrawals which was a big gap that actually Dr. Asquith mentioned?

Ms. Sproat: Actually, the Water Code already requires the reporting of pumpage on a monthly basis, especially for groundwater wells. So, that is something that the law already requires, but in many different communities for one reason or another, it is not done. I think as Dr. Asquith pointed out, the State Water Commission in doing an assessment through its Water Resources Protection Plan, actually noted that on Kaua'i in particular, there are issues either where the water meters are not operable or even if they are operable, reports are not being submitted on a monthly basis. So, even though that is already required through the process, once it gets to the investigation stage, there are opportunities for the Commission to partner with any number of agencies at the County, State, or Federal level and to require a whole host of information including initial water use reports. That is also something that you folks as a Council could inquire of your own Department of Water Supply.

Councilmember Yukimura: Because the withdrawal deals only with the water meters that are under our Water Department or are there other users and other mechanisms?

Ms. Sproat: So, Adam pointed out in one of his slides, that there are a number of wells in the area at issue. The majority of them that are being operated are through the County Department of Water Supply. Because reporting has been spotting at best for quite some time now, we are not even sure kind of whether some of the wells are being operated or not. So, that is certainly something that the Commission and even the Council could inquire about.

Councilmember Yukimura: Okay. Two (2) more questions. The decision of a designation, is that appealable to the courts?

Ms. Sproat: That is a good question actually. There was a court case Ko'olau Agriculture that decided it. That dealt with once the Water Code was first passed in 1987, there was an effort to have several areas designated, and the Ko'olau Agriculture case dealt with water management areas in windward O'ahu. In that particular case, the Water Commission designated a water management area and individuals including Ko'olau Agriculture disputed it and appealed it. There were some procedural questions about how and where the appeal should be filed, but one of the rulings of the court was actually a decision of the Water Commission on designation, is final. So, they could not be appealed by Ko'olau Agriculture. Now, there is a footnote in that case that notes a distinction between an area where in that case, the Water Commission acted to designate and provided an additional layer of protection. It noted in the footnote that the failure to designate a water management area could be considered upon Writ of Mandamus to the Hawai'i Supreme Court.

Councilmember Yukimura: Okay. Last question. I think in slide, oh, you do not have numbers, about regulating groundwater. The speaker, the one before Alana. I am sorry.

Ms. Sproat: Kelsey?

Councilmember Yukimura: Kelsey, talked about there was an overestimation of water that could be withdrawn and that there is a re-estimation going on?

Ms. Sproat: I think what Kelsey may have been alluding to is something that Adam also touched upon. So, the Constitution was amended in 1978 to create the framework for our Water Commission and Water Code. The Water Code was not actually passed until 1987 because it took some years of wrangling at the legislature. Once that happened, there were a series of rules that went into effect both with respect to groundwater and surface water. At that time because it was in the mid 1980s and what the Water Commission used was something called the RAM. It is a Robust Analytical Model that was used to predict what they thought the sustainable yield would be in various aquifers. Since that time, I mean it has been almost thirty (30) years now, there updates and people recognize that the RAM although it provided less information than it could at the time, was a very simple model that included certain assumptions like the ideal placement of wells, that the Water Code does not currently provide for. So, in making those assumptions, it overestimated what the groundwater supplies would be. So, in many places throughout Hawai'i, Maui has recently undergone this. The Counties are in the process of partnering with the Federal United States Geological Study, for example...

Councilmember Yukimura: Oh, I see.

Ms. Sproat: ...they have been looking at adjusting those sustainable yield numbers, which are often going downward. That is also important because, I think as Dr. Asquith pointed out, in the Līhu'e basin in particular because of the loss of irrigation recharge, which we know that in this aquifer increased rates by twenty-five percent (25%). It is important to reexamine these numbers now, in light of changes in our community as well as things like climate change that we are experiencing.

Councilmember Yukimura: Thank you very much for clarifying.

Ms. Sproat: Sure.

Committee Vice Chair Chock: Thank you. Councilmember Hooser.

Committee Chair Hooser: Yes, for Dr. Asquith, I appreciate your presentation. Thank you, Kapua, and all of your students for being here. The numbers about the disconnect with the water being used, the 30 MGD figure in that way, your presentation is alarming in many respects. I would want to err on the side of caution, but I am sure that as this process moves forward, assuming it does, that others whether it is developers or the County or whoever, may have different opinions. So, what would the –and hopefully they will show up, people will testify today if there are different opinions. What would you say is the counterargument to say, “No, no, no. He is right about this, but he is wrong about that,” I mean is there one or is it going to be pretty cut and dry do you think?

Dr. Asquith: From my perspective because I am trained in most of my professional career in Hawai'i has been as a biologist. So, I have stretched my expertise a little bit into the groundwater hydrologic area, but again, fortunately we have a phenomenal study, and that is where my presentation came from. In that study, they clearly showed the direct connection between the groundwater and the streams. It is that connection that is not taken into consideration when calculating

that sustainable yield. So, again, because it is based upon a different model. So, my answer to that is that we should from an environmental, cultural, and social perspective, include the requirements for our stream in that groundwater removal model because we know it is directly connected. When we do that, which we have not yet, it will actually exacerbate the problem because right now we have compartmentalized it. We said, how much groundwater is available? Then there is another question that say well, how much water do we need in the streams? Actually, it is the same question. That is what the model shows.

Committee Chair Hooser: So, you believe the evidence and information is clear? There is no question about that?

Dr. Asquith: Yes, it is. Again, we are fortunate that we have such good information for this area.

Committee Chair Hooser: Okay. My other question for now is, is it Professor Sproat or Dr. Sproat?

Ms. Sproat: Kapua is fine.

Committee Chair Hooser: Kapua. Thank you. It has been mentioned that one of the results would be longer permitting, maybe more complexity, which most would translate to slower process and perhaps even restricted use. So, regarding landowners or developers or plan growth, would there be any issues of taking or restricting? All of a sudden someone cannot do what they were going to do and there is an issue of taking. If you could talk about that a little bit, I would appreciate it.

Ms. Sproat: Sure. I think that is a great question because I think a lot of people in the community are concerned whenever there is discussion about additional management with respect to water use whether it is the context of water management area designation or some other tool that is provided under our State Water Code. I think people get kind of *kānalua* about what does that mean and how that might affect private interest in particular. I think in contemplating that question, it is really important to consider the context, and that is part of why the students provided a lot of background on the public trust. So, the answer to your question is that in Hawai'i, because we are in a regulated riparian State with very strong public trust principles, people cannot own water. That was something that was made very clear. That direct question was litigated in the McBryde vs. Robinson case. It was also raised again in the Waiāhole litigation in the 2000 decision that was issued by the Hawai'i Supreme Court. What the court made very clear was that because we are in the context of the public trust, people have usufruct or rights of use, but you do not actually own anything. So, because of that where there have been direct takings claims alleged like in the Waiāhole where Kamehameha Schools argued, "Okay, if I do not get this water, it is a taking." The court basically ruled against them and said, "That is not the context in the public trust." So, I do not believe that would be an issue. That said, I understand that there are certain concerns and people are always worried about what impact would this have on businesses on development. One thing that I would highlight, I think, for the Council and the community is that actually, greater regulation in some instances, can benefit developers because if I was a developer and I came in here and I wanted to build a Safeway or one thousand (1,000) homes, I would want to know before I invest all of this money in planning, in permitting, and in everything else whether or not this can actually happen. So, I think sometimes developers roll the dice and sort of –or not

developer, people in general, roll the dice and sort of not wanting to know. I think for us and especially here in the context on Kaua'i, that more information would be better and would provide assurances, not just for the community, the public trust and the recourses, but for also for people who want to do business her on Kaua'i.

Committee Chair Hooser: Great. Thank you very much. Thank you, Chair.

Committee Vice Chair Chock: Thank you. Councilmember Bynum.

Councilmember Bynum: Thank you, both for an outstanding presentation. I will try to be brief. I am going to start with this Precautionary Principle being imbedded in Hawai'i law. This is new to me today, and I thought I knew this material. Those words are directly from the real Convention and now become part...and that was in the Supreme Court decision that they use this language?

Ms. Sproat: Right, that was actually from the Hawai'i Supreme Court decision. First off, I really want to congratulate and acknowledge my students for working very hard to put this information together in a very cogent, and I think, helpful way.

Councilmember Bynum: Yes.

Ms. Sproat: One of the things that we tried to do because we understand that these issues can be political and controversial, is we tried to stick to the language of the law. So, if you notice in the section on the Precautionary Principle, much of that Sarah summarized very eloquently are direct quotes from the Hawai'i Supreme Court decision. So, in the 2000 Hawai'i Supreme Court decision actually, that was only the second published decision at the time that incorporated the Precautionary Principle into Hawai'i law. So, Hawai'i is really at the cutting edge of this work in a number of ways.

Councilmember Bynum: So, these principles, we are forcing on water today, but the public trust principles apply to other resources including for instance, soil? So, if you own the land, do you own the soil or is that a public trust?

Ms. Sproat: Well, that is a whole, I think, we will need at least another three (3) hours to discuss it.

Councilmember Bynum: Okay. Let me move on from that to my only other question, I think, and I do appreciate what you said. Complex issue in a digestible form that is understandable. I think you have all done an excellent job at that today, but you have to stay with the program. If you check out of the presentation, try and check back in and watch out. This is really good stuff. There are all kinds of obligations under law. The State has obligations under the law. One of them as you said, is to establish Inflow Stream Standards. When was that obligation first outlined?

Ms. Sproat: When the Water Code was first passed in 1987.

Councilmember Bynum: 1987?

Ms. Sproat: Right, almost thirty (30) years ago.

Councilmember Bynum: And we have not established any Inflow Stream Standards in Kaua'i?

Ms. Sproat: Well, as I think Kelsey explained, when the Code was first passed, there was a period of time...

Councilmember Bynum: Interim.

Ms. Sproat: Right, where the Water Commission was tasked with setting these standards. So, there is a whole process outlined in the Water Code, very detailed, about what you need to go through in order to consider the impacts on beneficial instream uses, agencies you can consult with, and what have you. When the Water Code was passed, the Water Commission was give tremendous *kuleana* in a whole range of areas, and a very short time in order to do that. So, what they did was on October 8, 1988 what the Commission did was they said whatever amount of water in the stream is there, that is the interim Instream Flow Standards. So, it was just status quo. They did not actually do the necessary studies. Those are temporary standards. They did not actually pass any permanent Instream Flow Standards anywhere in Hawai'i.

Councilmember Bynum: So, they are also required to monitor the flow in the streams. How are they doing with that?

Ms. Sproat: Statewide, there have been serious concerns about monitoring because of drops in funding in a whole range of areas. A lot of the monitoring is done through the United State Geological Studies in partnership with different City and County agencies. Just about every year, they lose gauges because they do not have the funding to maintain them.

Councilmember Bynum: Let me get more general. The County has obligations. One you pointed out is to report our well draws and maybe we need to look about whether we are complying with that because that is our *kuleana*. This is the County.

Ms. Sproat: Right.

Councilmember Bynum: So, I am going to go to the Kaua'i Springs case for a minute because your student here expanded beyond what Mr. Minkin talked about here the other day. What Mr. Minkin said was hey, he said, "Hey, you have not only a right to ask these questions. You have a responsibility and you need to be proactive." So, the proactive part of what he is saying and that it is a County agency, not County decision maker at this body. We know we have to follow these laws, but our agency's do as well.

Ms. Sproat: Right.

Councilmember Bynum: But they have also outlined kind of a criteria by which is established. Have I got this right?

Ms. Sproat: Right.



Councilmember Bynum: So, each decision has further clarified the role. So, I will close with this. The County is being asked to, or perhaps if a petition is filed, within sixty (60) days, the County has to respond. By the way, that is one of the purposes for this workshop. If I am going to give sixty (60) days turnaround on such a complex issue, I would like more information in advance, and that is why I initially reached out to all of you. What if the County Council made the petition? Then you have already answered the question about whether we think it is important to have groundwater management area.

Ms. Sproat: Right, and I think that ties back to Councilmember Yukimura's question. The Council could absolutely file the petition. The petition could be filed by any entity. I think Hui Ho'opulapula Na Wai o Puna has been considering this because no one else had taken action, but certainly the County considering its public trust obligations, could file the petition if it wanted to.

Councilmember Bynum: Would there be any positive or negative consequence to that?

Ms. Sproat: Well, I mean, I guess it depends on who you ask for sure. I think one thing that I would note is that designation processes have been highly contentious and politicized in many different communities. I have worked on designation petitions on Maui and in different areas. One thing that I would note is that where the County takes a position that often is very...that has a lot of political weight to it. For many years, the Iao aquifer on Maui was not designated even though scientists, community members, and regulators all knew that the aquifer was in trouble, but the Mayor at that time opposed it. So, that prevented it from being designated. So, I think if the Council filed a petition, that would send a very strong signal to the Water Commission that the County is taking its public trust duty seriously and also has an interest. So, I think that would help to expedite the petition process or the designation process.

Councilmember Bynum: So, it could make things move smoother?

Ms. Sproat: Right.

Councilmember Bynum: Maui was faced with this choice, and the County Council there, did it support the petition in the long run?

Ms. Sproat: So, there were several attempts to designate on Maui. In the first instance, the Council and the County did not support it. In the second instance, the Mayor, the Council, and the Department of Water Supply all supported designation, and that designation went through. So, definitely.

Councilmember Bynum: Thank you very much.

Committee Vice Chair Chock: Council Chair.

Council Chair Furfaro: Yes, thank you, Committee Vice Chair Chock. First of all, hello.

Ms. Sproat: Aloha.

Council Chair Furfaro: I remember you when you were a young girl in Brownies with my daughter in Kalihiwai. Just kind of a follow-up on a question

over here, and maybe I will direct this to our County Attorney's Office. As a member of the Council that authorized the challenge on Kaua'i Springs with the Planning Department, where is the County's role in, I think it is Chapter 174 under the dispute resolution areas? I mean really, where is some of our authority? It seems to be all with the State.

Ms. Sproat: Right. That is part of why Sarah touched on the Kelly decision, which makes really clear that Counties have public trust duties and that is also why, I think, Joanna touched upon the six (6) main obligations that agencies have in the public trust because this Council is bound by those same principles. So, every decision that you make including one on designation or anything else, should consider what needs to be done in order to satisfy each of those six (6) criterion.

Council Chair Furfaro: I think I am being very obvious here because the reality is because of public trust, I know where my position was on Kaua'i Springs, but at the same time, I have to tell you I have some real concerns about our ability as the lesser public subdivision having an ability to get some authority in dispute resolution.

Ms. Sproat: Right.

Council Chair Furfaro: To me, it is just a circle going here. Maybe I will direct more questions toward the County Attorney later. I am sorry. I am not a member of this Committee, and I have to excuse myself to previous appointments. I do think that is a big part of the questions for the Council.

Ms. Sproat: Right.

Council Chair Furfaro: Where and what is our role in dispute resolution?

Ms. Sproat: And I am sure Mauna Kea can answer that.

Council Chair Furfaro: I am sure he can. He is a very capable young man with a very strong mind about stewardship.

Ms. Sproat: Right. I do really also want to applaud the County and this Council in particular for authorizing the appeal on Kaua'i Springs because I think that was a very brave thing that you folks did. I think that the Hawai'i supreme Court strongly upholding the County's positions sends a strong statement about how it supports what it means in the public trust and also, I mean, a lot of people Statewide are really looking at what the Planning Commission did because you folks are defining the standard. I mean, the application on Kaua'i Springs came in only about a month or so after the Kelly decision came down, and yet, the Planning Commission took it very seriously, and then the rest of the County backed it up. So, *mahalo* for taking that stand and having helped us to clarify the law.

Council Chair Furfaro: Young lady, I am going to leave. It is very nice to see you.

Ms. Sproat: It is nice to see you.

Council Chair Furfaro: Please give my best to your family.

Ms. Sproat: I will. *Mahalo*.

Council Chair Furfaro: Committee Vice Chair Chock.

Committee Vice Chair Chock: Thank you. Councilmember Hooser.

Committee Chair Hooser: Yes, Chair Furfaro, I just wanted a point of personal privilege if I could. I noticed there was a birthday cake in the lunchroom that you brought.

Council Chair Furfaro: Yes, someone brought it by.

Committee Chair Hooser: Oh, okay. So, could we all wish you a happy birthday?

Council Chair Furfaro: Tomorrow I will be sixty-six (66). Thank you, Mr. Hooser.

Committee Vice Chair Chock: Take the day off.

Council Chair Furfaro: Thank you, everyone. I make sixty-six (66) tomorrow.

Councilmember Bynum: Just one (1) more.

Committee Vice Chair Chock: Okay.

*(Council Chair Furfaro was noted as not present.)*

Councilmember Bynum: Sorry, I thought of one more. It just kind of leaps out at me. As I watched this timeline of Supreme Court decisions, our Water Department knew we had groundwater problems ten (10) years ago, that is why we built the Surface Water Treatment Plant. We knew that we were going to take water from Wailua River and we already knew about these efforts in the State to keep the water in the stream. Have we come that far as a County because when somebody else wanted to use the water inconsistent with public trust, our Department said no, be we have now used it? Was that not use from day one, inconsistent with public trust?

Ms. Sproat: That is for you probably.

Dr. Asquith: I would rather just let that hang in the air.

Councilmember Bynum: Okay. Thank you.

Ms. Sproat: That might be a good question for the Department of Water Supply.

Committee Vice Chair Chock: We will get to more questions and we will get to more discussions as mentioned previously. So, I want to thank you again for answering what we could in this timeframe, and open up for public testimony. We have again, nine (9) people registered. So, I would like to move right into that.

Dr. Asquith:

Thank you.

Committee Vice Chair Chock: So, the first speaker here is Rebecca Cate. Is that right? I am sorry. Rebecca. Oh, you have other people, these other people with you as well? Okay. There are only three (3) microphones.

REBECCA CATE:

We are organized.

Committee Vice Chair Chock: Okay.

*"Noho ana ke akua i ka nahelehele  
i alae 'ia e ke ki'ohu'ohu e ka ua koko  
O na kino malu i ka lani malu e ho,  
e ho'ulu mai ana ke akua i kona mau kahu  
O makou, o makou no ae"*

Committee Vice Chair Chock: *Mahalo.*

Ms. Cate: *Aloha mai kakou.* How are you? My name is Rebecca Cate and I am a teacher of math at Kawaikini Public Charter School, which is the Hawaiian emersion charter school located in the *moku* of Puna and the *ahupua'a* of Haiku.

Committee Vice Chair Chock: Is the microphone on? Is the blue light one? Okay.

Ms. Cate: Yes, it is.

Committee Vice Chair Chock: Just speak louder so other people can hear you.

Ms. Cate: Sure. So, I have the privilege of being able to teach the younger generation, the future generation, and part of that, I try to make creative projects when I do that. So, to tie it all into why we are even here is I have done lots of different research for different types of projects that I can do, and I always tend to tie my projects related to science. So, discussing with many different scientists about different things, I came across a local scientist with a local fountain that is interested in the restoration of Ala Koko. So, as I began in that process, it very quickly led to another scientist that pointed out we have to take care of the waters in order to be able to even move towards that process. So, I began working with that scientist in order to introduce my students, future generations, into scientific things, mathematical things, in order to try to make a difference along with our Social Studies teacher who is very interested in having them be a part of interest of things of the law as well. So, it is kind of at this point in time I have four (4) students here that began kind of a Walk the Watershed Project. We actually went out with a local scientist and walked the watershed. We started with the waters behind our school, it went right through our front yard, that water shed that sits right there in front of Kawaikini Public Charter School at Kaua'i Community College (KCC) is our front yard, and we watched it go up and watched it go down. They are kind of shocked, I think, in what they learned about it all. We studied the maps. We did all of that types of (inaudible). So, all of these things that Adam shared, my kids went out, got dirty, and looked at it. So, they just to give you kind of a brief testimony

about some of the things that they saw with their own eyes. I just feel like it is an interesting aspect for you folks to be able to see things that the future generation is doing within our education system. So, there are four (4) of them. One of them is going to share with you about his impact on what he saw with the *‘āina* in relation to the water. One of them is also just going to talk with you briefly about what she saw about the water being diverted. Also, the division of the *ahupua‘a* are very near and dear to what our *kupuna* saw in past and what has gone on what that, and just kind of general heartfelt impact of what our students saw during that. So, without further ado, I will let the four (4) of them speak to you now.

Committee Vice Chair Chock: Thank you, and each of them will have up to three (3) minutes.

Ms. Cate: Yes.

Committee Vice Chair Chock: Okay. *Mahalo*.

Ms. Cate: Thank you.

TIMMY (KEAOULI) KANAHELE: No worry, it is going be fast. *E na kupuna, na makua, ame na poki‘i mai Hawai‘i moku o Keawe a i Ni‘ihau a kahelelani, owau no o Keaouli Kanahele, mai ka ahupua‘a ‘o Anahola ma ka moku o Puna, hele wau i ke kula o Kawaikini ma ka ahupua‘a o Ha‘iku. Aloha*

Committee Vice Chair Chock: Thank you, Timmy.

Mr. Kanahele: We started out by looking at maps about where the water was going in the *ahupua‘a* of Puhi. We also wondered why the plantation diverted the water. What has struck my heart was when I went out there with my boots and walked alongside of the riverbank of Pū‘ali Stream and it made me feel sad of how land is being covered in hau bush and buffalo grass. In the future, I would want everybody to see this river as if it were back when our *kupunas* were working on keeping our *‘āina* clean and making sure our water was clean enough for us Hawaiians to drink. If the *kupunas* were to see this, they would be devastated because of the way these *‘auwais* are. *Mahalo*.

Committee Vice Chair Chock: *Mahalo* Timmy. Thank you, Mr. Kanahele.

KALALEI ROGERS: *Aloha*.

Committee Vice Chair Chock: *Aloha*.

Ms. Rogers: *O wau o Kalelei mai ke kula o Kawaikini ma ka ahupua‘a ‘o Ha‘iku ma ka moku o Puna*. In the plantation years, the water was diverted to feed plantation houses and the sugar field, but now that all of the water is diverted, there is no water left in the original streams. Now, there is none left for what the stream originally fed. We went to study Pū‘ali Stream and Halehaka Stream to see where it starts and where it leads to. We found out the water is still there, but only so little. I would like to see the water come back to its rightful place and made sure that there is enough left for other generations. *Mahalo*.

Committee Vice Chair Chock: *Mahalo nui*. Kalalei, *mahalo*.

KAMALANI HOPKINS: *Auheā hoʻi ʻoukou e na pokiʻi, na makua, na kupuna, mai ka hikiina o ka la i haʻehaʻe a i ka mole ʻolu ʻo Lehua. ʻO wau no ʻo Kamalani, no Anahola, Kauaʻi mai au a hele wau i ke kula o Kawaikini ma ka ahupuaʻa ʻo Haʻiku, ma ka moku ʻo Puna. The past few weeks we have been learning and studying about the waterways of the moku o Puna, but mainly between the two (2) ahupuaʻa of Haʻiku and Niumalu, and the border line between those two (2) ahupuaʻa. Back in the days of kupuna the water was the border line of the ahupuaʻa and it flowed and went with the ʻāina, but looking at the maps that we studied, it is no longer the waterways. It is a road. Why is that? My question to you is, how do we restore the original boundary of the ahupuaʻa back when it was doing the kupuna and the wa kahiko while respecting the local population's need to water? Mahalo no ko ʻoukou.*

Committee Vice Chair Chock: *Mahalo nui.*

Ms. Hopkins: *Mahalo no ko ʻoukou ahonui e hoʻolohe i ka makou leo haʻahaʻa.*

Committee Vice Chair Chock: *Mahalo. ʻAe, Kamalani. Come up.*

MOMI KAAHANUI: *Aloha. My name is Momi Kaahanui. Aloha mai e na kupuna, na makua ame na pokiʻi. Mai Hawaiʻi ʻO Keawe a Niʻihau a Kahelelani. ʻO wau no ʻO Momi Kaahanui, no Kapaʻa, Kauaʻi mai wau. The last couple weeks I have been studying about the waters and where they would end up. Based on the map I looked at, I think it is pretty cool to see how the water was diverted and to also see the streams and rivers and where they end up at. When I went out and walked out with my classmates, I found out that some of the water ended up where it was supposed to be and some of the water was somehow diverted into another stream. I just wonder where that water would end up and how it would end up in Niumalu. I just want what is best for our future generation. Mahalo.*

Committee Vice Chair Chock: *Mahalo. Thank you.*

Ms. Cate: *Thank you for your time.*

Committee Vice Chair Chock: *Again, mahalo Kawaikini ha mana. Next up, we have Kamealoha Hanohono-Smith. Please come forward, sir. That is followed by Mr. Heacock. So, get ready.*

KAMEALOA HANO-HANO-SMITH: *Aloha mai kākou āpau nā hoāʻāina, nā kamaʻāina, nā malihini pū mai ka mokupuni o moku o Keawe a nā mokupuni a Papahānaumoku mai ke (inaudible) o Mauna Kea, Haleakalā, Waiʻaleʻale, a me nā ʻāina a kūmūwai āpau make a pae ʻāina nei. Aia ka wai a Kāne. Welina mai. Me ke aloha kākou āpau. ʻO wau ʻo Kamealoha Hanohano Smith. A laila, I am from the ahupuaʻa of Anahola, which is in the moku of Koʻolau, but the kuleana that I have as a person who works in the kai regions of the ahupuaʻa is actually in Wailua and Olohena, which is in the District or the moku of Puna. I currently serve. I do several things. I also work part-time at Kawaikini Public Charter School, but my full-time job is as Project Director for a community based Hawaiian language and Hawaiian medium traditional knowledge marine education program. We are based in Wailua Bay. We have projects in other places as well and*

our program mission is to increase the number of *wahi pana* or places here on the island of Kaua'i's where traditional knowledge is relevant and meaningful in today's society and economy. We do this by partnering with the community, especially *keiki*. Our real target range is the four (4) to nine (9) year old population, and one of the reasons why we do our project in Wailua is for safety reasons. It makes it is easy to work with the *keiki* in those areas. The work that we do by partnering with community to design monitoring assessment and inventory protocols to improve overall management of fish, *limu* and *meakanu* which are Hawaiian plants, and wildlife along the coastline. We look at these issues through the lens of both traditional knowledge and western science, and core to our belief is that 'Ōlelo Hawai'i or Hawaiian language is an essential component of stewardship practices that provide profound insight about *pono* resource management practices. Hence, we spend a lot of time in the projects that we do researching and dissecting traditional Hawaiian language use in these areas, as well as cultural practices to facilitate our programs mission to improve overall coastal marine resource management, especially that which is related to watershed and waterways. So, one of my objectives for presenting today kind of selfish, but of course I am always looking for opportunities to speak Hawaiian. That is one thing. *Kala mai*. What we want to try to do is to try to make sure that people know that it is okay to speak Hawaiian in every form and any venue wherever possible, but also to provide support for the community organization Na Wai Puna...oh, goodness. I forgot the name.

Committee Vice Chair Chock: That is three (3) minutes, yes?

Mr. Hanohano-Smith: But Auntie Debbie...

Committee Vice Chair Chock: That is three (3) minutes. So, if you can wrap it up.

Mr. Hanohano-Smith: Okay, yes. So, the community based resource management, so I just wanted to say that we are here because we wanted to provide support for that group, and really make sure that community groups such as Auntie Debbie's' group if you will, has the opportunity to provide input into the process. So, *mahalo*.

Committee Vice Chair Chock: *Mahalo nui*.

Mr. Hanohano-Smith: *Mahalo*.

Committee Vice Chair Chock: Thank you. Don Heacock. No, I talked to them already.

DON HEACOCK: *Aloha 'auinala*. My name is Don Heacock. I am here not in my official capacity as a State biologist, but as a professional fisheries biologist that has seen the degradation of our streams throughout *Hawai'i Nei* since the 1960s. I am also a *taro* farmer. I live and I am a *kuleana* landowner in *taro* farmer in the *ahupua'a* of Pū'ali. So, I first want to say that Hawaiians did not have a word for sustainability, they had a phrase, and it became our State model. *Ua Mau ke Ea o ka 'Āina i ka Pono*. It literally means that you cannot sustain and make

sustainable the land and the people unless you do that, which is ecologically right, *pono*, culturally correct, *pono*, and all of the other things that are in *pono*. I will just give one (1) example for clarification. I have heard this almost my whole life, more so after 1990 when sugar went out. The first speaker today said that the sugar diversions and irrigation systems are valuable resources or infrastructures that we need to protect, but they violated all three (3) of the sustainability legs on the sustainability stool. Sustainability means that it is economically efficient, it means that it is ecologically sounds, and drying up sections of the river that block the migration of our native *o'opu*, especially the *o'opu nakea* that was so important in Native Hawaiians it has a God named after him. The only fish in the State. The other leg of the stool is cultural and social equity. Is it fair?

In 1981 when I moved here from Maui, I lived in Anahola in 'Aliomanu. I met Christian Lovell, Sr. on the beach one morning and asked him why there was not *taro* growing in Anahola. He went home, brought back a black and white photograph I think taken in 1906, that looked like Hanalei. Eighty (80) acres of *taro lo'i* with the Anahola peaks in the background. I said, "What happened?" He said, "Well, they built a concrete dam across the river. My father went out and all of the *lo'i* were dry. The river dropped three (3) feet." Was the culturally equitable? No. It violates not only our State Water Code to protect the ecological instream benefits of stream flow, but it also violates the Federal Clean Water Act that is underpinning is to protect the biological integrity of our streams, rivers, coral reefs, et cetera. Our *o'opu* are like salmon. They have to migrate twice in their lifetime up a stream. They cannot migrate if it is dry. Fish need water and it has been an incredible negative impact on not just the native ecosystem, but on native culture. Those ecosystems and the culture are in fact our only two (2) natural capita. Thank you.

Committee Vice Chair Chock: *Mahalo*. It is good to see you. Thank you.

Mr. Heacock: Thank you.

Committee Vice Chair Chock: Ms. Tessie Kinnaman. Here she is. Followed by Bridget Hammerquist.

TESSIE KINNAMAN: *Aloha*, good afternoon. Tessie Kinnaman for the record. The public trust document. I recall the Kaua'i Springs issue back ten (10) years ago where myself and my dearly beloved friend Cheryl Lovell-Obatake, we did attend the Planning Commission hearings on that during the first go around with Kaua'i Springs. We were opposed to the development for one thing, because it was an after-the-fact permit. What we were really pushing was for back then, we did not quite know the name, but we knew it was a culturally issue, public rights issue, with the Public Trust Doctrine. I would like to applaud David Minkin and the County Attorney's Office, Mauna Kea Trask, the County Council, and of course the Supreme Court for that landmark decision. Thank you very much.

Committee Vice Chair Chock: *Mahalo*. Thank you, Tessie.  
Ms. Hammerquist.

BRIDGET HAMMERQUIST: Good afternoon.

Committee Vice Chair Chock: Good afternoon.

Ms. Hammerquist: My name is Bridget Hammerquist. I was born in Hilo, raised in the islands, came to Kaua'i when I was seventeen (17) when



my family made their home here, and my parents are buried here. I care about Kaua'i. The reason I am here is because we have formed an association of interested members of the Kaua'i community. They range from the far eastern shores to the far western shores. We have people all of the island that are very concerned about what falls within the Public Trust Doctrine, preservation of our natural resources. One of the areas of our island that possesses some of these very valuable natural resources is the Maha'ulepu Valley. I am here today to ask that before any commercial operation goes into that valley, that the County Council and all County agencies be asked to look very carefully at preservation of our water. That is going to be a big issue there. The proposed two thousand (2,000) cow dairy herd is intending to operate in Maha'ulepu Valley pursuant to a lease for use of the land that they have with Grove Farm. We have been told at public meetings by representatives of the proposed Hawai'i Dairy Farm, an industrial dairy, that Grove Farm as a term of the lease, has guaranteed them up to 3 MGD. When Kyle Data was asked where is that to come from, he said, "The Waita Reservoir." The Waita Reservoir holds waters diverted from the Hule'ia River. Those waters also feed the underground aquifers that charge three (3) large County wells that produce over four million (4,000,000) gallons of water that service all of Po'ipū and Kōloa. For those of you that have gotten some of our documents of concern, one of the areas is contamination of the waters by the waste that the cattle will produce. They will produce three million (3,000,000) pounds of manure a month. It will be eighteen million (18,000,000) pounds in six (6) months. It is intended to lay on the ground. It is intended for a ground application. Meanwhile, we have a Federal agency, our Natural Resources Conversation Services Offices, a Division of the United States Department of Agriculture, who conducted a detailed custom soil resource report for this particular site, the actual Maha'ulepu Valley site for the farm. The result of that survey was that over...

Committee Vice Chair Chock: That is three (3) minutes too, Ms. Hammerquist. If you could wrap it up as well.

Ms. Hammerquist: Yes. Over sixty-six percent (66%) of the soil will not tolerate it. It is very limited in its ability to tolerate manure. In other words, it will not perk in. It is clay based. The area that does perk on the farm is within seven hundred fifty (750) feet of Kōloa Well C and Kōloa Well F. Large wells. So, please, under the Public Trust Doctrine, under public safety, and public health, please assure before anything like that is allowed to operate, that it will be safe because right now, we are already finding evidence of pollution in the area just from what the dairy farm has done in grubbing and grading. Thank you for taking the time.

Committee Vice Chair Chock: Thank you.

Ms. Hammerquist: I appreciate it.

Committee Vice Chair Chock: Thank you. Okay, that concludes our public testimony. We have no one else signed up to speak at this time.

Councilmember Yukimura: Carl wants to.

Committee Vice Chair Chock: Yes, Carl, you need to sign up because we are overtime on our workshop. So, you will be given this opportunity.

DR. CARL BERG: *Mahalo.* Thank you very much for giving me the opportunity. I will be very brief here.

Committee Vice Chair Chock: Thank you.

Dr. Berg: My name is Dr. Carl Berg and I would like to point out that under the Precautionary Principle and the Public Trust Doctrine, that the quality of the water must be maintained as well as the quantity. Thank you.

Committee Vice Chair Chock: Thank you. Ann. I will give you three (3) minutes. We are overtime everyone.

ANNE PUNOHU: No worry, I will hurry.

Committee Vice Chair Chock: *Mahalo.*

Ms. Punohu: *Aloha.* My name is Anne Punohu. I wear a lot of hats. Thanks to Dr. Adam Asquith, I had the opportunity to return to the land. So, water to me is an issue because I am going to return to farming. I want to put on a different hat today, which none of you probably know I even have. I am a real *kahu* and an actual Minister. I have the paperwork to prove it. For the last thirty (30) years, I have been a practitioner of an old way, which did not talk about for the longest time, but an article was written about it in *IslandBreath.org* a couple years ago where I came out of the closet about my belief system. I follow the *mo'o* way. The water and the *mo'o* to me, are my religion, but I do not talk about it, but I talk about it now for a reason because there is still a living breathing religion that is still followed by many people though nobody talks about it because you are not supposed to talk about it. I will tell you that people say, "Why is the water sacred?" Nobody can answer that question. I can answer it. The water is sacred for a reason because it is part of an intricate religious belief system that is still intact, is still believed by many people, and is still practiced by many people. I am one of them that practices it.

If we are going to talk about protecting the water, we cannot disregard the old ways. However, the old ways gave way to Christianity and everybody who thinks about that is very quiet about what they believe. I think that now is the time to talk about it because they are very specific. If you do not clear the waterways and if you do not keep them good, the water sours. It is an old belief that things happen and that is why that water is sour. We need to make sure that our ditches are clear. We need to make sure that our water flows and we need to stop diverting our water to every other purpose but feeding our own people. Water should not be diverted for greed. Water should only be diverted to feed and the people that needs to feed is us and our people, not only for our bellies, but for our souls and for our spiritual renewal. No company, I do not care who they are or where they are from. I do not care if they are Kaua'i Springs or cattle. There is nothing wrong with cattle. That is not the point. The point is that water has become more and more scarce and will continue to become more and more scarce as we develop this island and as we increase our population. Do we want that to happen? Water is what runs this island. It is what has named this island. It is what this island is all about. To give it to those who would use it in a wrong way and not respect its sacredness, its importance, and its vitality to all the people is a wrong thing to do. Any group and body that engages in that is wrong as well. *Aloha.*

Committee Vice Chair Chock: *Mahalo.* Alright, thank you. That concludes our public testimony. If there is no one else, I would like to offer a few minutes to our Administration. I know that they wanted to say something, and also to the Water Department as we close here. The intention here is that we hear all sides and listen to all people involved in these issues. We would like to move towards the possibility

of continuing this discussion to offer the Water Department more time, but we will offer them a few minutes at this point. Nadine.

NADINE K. NAKAMURA, Managing Director: Good afternoon. Nadine Nakamura, Managing Director. Mayor Carvalho believes that water is one of the most important and precious natural resources. He understands and embraces the County's public trust obligations to conserve and protect Hawai'i's natural beauty and all natural resources, including land, water, air, minerals, and energy sources. The Mayor and his team met with Debbie Lee Jackson, Adam, and Kapua on July 21<sup>st</sup> to learn about Ms. Jackson's interest in participating in the Department of Water's Advisory Committee concerns regarding lack of water on her property and larger concerns regarding water resource management in Lihue. The Mayor supported Ms. Jackson's appointment to the Department of Water's Advisory Committee for their upcoming Water Plan and asked County Attorney Al Castillo to help resolve Debbie Lee Jackson's immediate water needs. We thank Chair Furfaro for the invitation to meet with William Tam, Deputy Director of the Commission of Water Resource Management on August 19<sup>th</sup> to further learn about the process of designating water management areas under the State Water Code. Finally, we thank the County Council, Kapua, Adam, and UH law students for giving us this opportunity to listen and to learn today. We are committed to working with the community, private landowners, and the State of Hawai'i to ensure that all uses of water are reasonable and beneficial under the State Water Code, and comply with public trust duties for the benefit of present and future generations.

Committee Vice Chair Chock: Thank you. Can we have our representative from the Water Department as well?

ANDREA A. SUZUKI, Deputy County Attorney: Hi, I am Andrea Suzuki. I am the Deputy County Attorney for the Water Department. I know we are overtime here so I am going to keep it really short. I am going to start off by saying on behalf of my clients and myself, we are a little disappointed in how today played out. We were not fully informed about what was going to happen today. So, we really do not any specific response to provide. We saw the slideshow today. We were sent it a day ago. There are some inaccuracies in the presentation that the Department would have liked the opportunity to address adequately. So, we look forward to your future meetings that you are going to hold so we can be a participant in this process. I do want to clarify because it was repeated numerous times, that the Department of Water does not monitor and report those to the Commission on Water Resource Management (CWRM), and we do. It is reported and give to CWRM.

Councilmember Yukimura: Question.

Committee Vice Chair Chock: Councilmember Yukimura has just a follow-up.

Councilmember Yukimura: I believe right after your testimony we will talk about having you back again to give more extensive input. I was thinking we would like to have the USGS people here too and other so we can have a full panel of input. I have appreciated today's input very much, but I think there are other players that we need to hear from too. My question to you is, in your clarification, are you saying that for all wells under the Department of Water you do give reports to CWRM as required by law?

Ms. Suzuki: Yes.

EDWARD DOI, Civil Engineer VI: Yes.

Councilmember Yukimura: You want to give your name?

Mr. Doi: I just wanted to clarify that..Eddy Doi. I just wanted to clarify that all of our wells are being reported to CWRM. To put it light, we are finding the right words, I think the report is a little mis-presented or...

Councilmember Yukimura: Today's report?

Mr. Doi: ..or inaccurate. Yes. We would like a chance to go through the things more. They can go on the CWRM website and see all of our data is being submitted to CWRM.

Councilmember Yukimura: Okay.

Mr. Doi: It is all on their website.

Councilmember Yukimura: So, it is all of the wells under the Department of Water's jurisdiction, and it is actually reported on a website that is accessible to the public?

Mr. Doi: I am not too sure if it is accessible, but...

Councilmember Yukimura: Okay.

Ms. Suzuki: Well...

Mr. Doi: I can give you a phone number.

Committee Vice Chair Chock: Hold on.

Mr. Doi: You can call and see if it is accessible.

Councilmember Yukimura: Yes.

Ms. Suzuki: We do not control...

Councilmember Yukimura: I mean, first there are two (2) parts to this. One is that you are reporting.

Mr. Doi: Yes.

Councilmember Yukimura: And the other is whether people can actually access it.

Ms. Suzuki: Right, and the Department does not control CWRM accessibility. That is CWRM that controls it. So, whether you can go on and see it, that is a CWRM situation.

Councilmember Yukimura: But I would think it is public information.

Committee Vice Chair Chock: Okay.

Councilmember Yukimura: Okay.

Committee Vice Chair Chock: We have gone over. I need to address that. We have asked our video people to stay a little bit later. So, we need wrap this up. The intention is to move forward and have a continued meeting, and we appreciate that. I am going to go to Mauna Kea and then directly to you just so I can wrap them up.

MAUNA KEA TRASK, First Deputy County Attorney: Thank you. For the record, First Deputy County Attorney Mauna Kea Trask. I would just like to thank Kapua today and Dr. Asquith for their presentation. Also, thank you to the law students. I vaguely remember being a law student myself. I had the benefit of working with David Minkin during the Kaua'i Springs case. So, that was a great learning experience. I encourage you all to go public service, in fact, apply for County of Kaua'i. We would love to hire five (5) new attorneys next year. I just wanted to say one thing. This is a very big issue. The County Attorneys' Office has been managing it. I have been speaking with Kapua for months now. She probably will not be able to fly over every time you have a hearing. So, we are ready to advise you appropriately on this issue. This is a very significant thing, and over this past year we went through a lot of processes regarding whether or not the State and Federal governments adequately address certain issues on this island. I really want to say this is a big issue to designate a water management area whereby the State in O'ahu would exercise administrative control over all of our water. I know you are not going to take that lightly, but there is a big discussion to be had. Expert testimony from trained professionals needs to be part of the record. So, with that, thank you very much.

Committee Vice Chair Chock: Thank you. Okay. Do you have a question for...

Councilmember Bynum: I have a question for Andrea.

Committee Vice Chair Chock: Andrea, okay. Andrea, can you stay?

Ms. Sproat: I just want to clarify. So, for the record, Kapua Sproat. I just want to clarify to the degree that there are any questions relating to any of the information that my students provided. I do want to let them know that the information that we provided about the accuracy of the wells was taken directly from the Water Commission's Water Resources Protection Plan. So, it was not our thing. It was a quote from that. The students actually followed up directly with Roy Hardy who is the Head of the Groundwater Branch regarding the reporting and requested whatever gauge and data was available, and that is where our statement about the inaccuracy came from. So, we did not look at the website, but actually went directly to the Groundwater Chief. So, just to clarify that.

Ms. Suzuki: Yes, we send it over. In fact when we saw that in the thing, our Administrative Secretary said, "I just sent that last week." It is kind of what we do. So, I just wanted to clear up that we follow, and if there is a miscommunication on the CWRM side, I do not know.

Committee Vice Chair Chock: Okay.

Ms. Suzuki: But we report.

Committee Vice Chair Chock: Thank you. Andrea, we have a question here. Thank you, Kapua for clarifying. This is again, such as complex issue. We can go back and forth. That is why we have to start somewhere everybody. That is why we are here. So, let us not get too deep into this without hearing more. Councilmember Tim Bynum, and we have close up.

Councilmember Bynum: Are you are aware that Dr. Asquith and myself with the Water Board Staff and Directors?

Ms. Suzuki: Yes.

Councilmember Bynum: And that we fully informed them about the content of tis, and made ourselves available to answer any follow-up questions. So, I would like to know specifically what your disappointment is about.

Ms. Suzuki: Yes, I am also aware they requested to see what was going to be presented today, and they...

Councilmember Bynum: I am sorry.

Ms. Suzuki: They requested to see what was going to be presented today, and they did not receive until Tuesday.

Councilmember Bynum: So, that is what you are disappointed about?

Ms. Suzuki: Yes.

Councilmember Bynum: Okay. So, we also...

Ms. Suzuki: I mean, that is what we were talking about.

Councilmember Bynum: ...said in that meeting that our intention was to present the process information, who was going to be presenting, and that if we had the opportunity, we would like to continue the dialogue. So, we have every intention to honor any request from the Water Department to clarify anything you saw here today.

Ms. Suzuki: Right, that is why I think Mason, he informed me...

Councilmember Bynum: And that was all discussed prior to this meeting.

Ms. Suzuki: ...earlier.

Councilmember Bynum: You acknowledge that was all discussed prior to this meeting?

Ms. Suzuki: I do not know that. I am sorry.

Councilmember Bynum: Because you were not present at the meeting.

Ms. Suzuki: Well, I know what my clients have told me, and I wanted to...

Councilmember Bynum: Okay. Thank you.

Ms. Suzuki: ...convey what my clients...

Councilmember Bynum: Thank you very much.

Ms. Suzuki: ...told me.

Councilmember Bynum: Thank you.

Committee Vice Chair Chock: Okay. We will be back and we will have this discussion right now for you and with you. So, you have a personal privilege, is that what you want?

There being no objections, the meeting was called back to order, and proceeded as follows:

Committee Chair Hooser: Just real quick. I know we are pressed for time and I appreciate Ho'ike being here. Thank you everybody for showing up. It is really impressive to have so many people here. I just wanted to thank you, but just to say clearly that the Water Department was invited and got notice, the same notice that I got. So, the presentation was presented to me freshly. I did not get it ahead of time. I did not ask for it ahead of time. There was no intent, certainly, to offend or any way treat the Department of Water inappropriately. They were invited, given the information, and we want to continue to hear from them as well as all stakeholders in the process.

Committee Vice Chair Chock: Great.

Committee Chair Hooser: Thank you.

Committee Vice Chair Chock: And with that, I will take...I will go to Councilmember Yukimura.

Councilmember Yukimura: I just want get some clarity about, presiding officer, about how we intend to continue this wonderful dialogue that has begun today. I do feel that the Water Department wanted more time. So, I want to make sure we can get that in place as well as get some of the other stakeholders to the table too.

Committee Vice Chair Chock: Great. There are some options available. One of the things is that this is not a Council Meeting day. This is a Workshop day. So, it is not on our regularly scheduled day. So, we have some flexibility in rescheduling or scheduling a new workshop that would continue this. The other thing that we could do is to defer this Workshop further to another date, but I think that there is probably some need for us to really talk to our Water Department and other stakeholders as to a specific date that we can all come to. So, I would prefer that we close this Workshop at this time. Councilmember Bynum.

Councilmember Bynum: We are all here and we can recess or reconvene this at a future date. Why not discuss a date now? I mean, I am looking

at my calendar and saying two (2) weeks from today would give plenty of time for the Water Department to ask questions, to prepare, and finding out the availability of the resource people. We have interested parties in the room. I do not know. Is that something we could accomplish now?

Committee Vice Chair Chock: I think I said it was one of the options. So, I am going to hear more from Councilmember Yukimura.

Councilmember Yukimura: I am very concerned about the absence of two (2) Councilmembers on such an important issue. I would like us to schedule so that everybody can be present, number one, but if we are going to be asking USGS and others, I think we have to give ourselves more flexibility in establishing date. So, I would rather that we close this meeting and just post again on the same subject, and with others.

Committee Vice Chair Chock: This is a great opportunity to be the Chair of this meeting. I can make the decision for you folks.

Committee Chair Hooser: I want to thank...normally I would chair the meeting, but I asked Committee Vice Chair Chock to chair this one. I am so glad that I did. First of all, every Councilmember had adequate notice to attend today's meeting. Different people have different responsibilities, and we are here today because we made time to be here today and we were able to be here today. Because of the number of stakeholders, if you would, I would think that we would take some time to look at schedules, see who can make it, who cannot make it, and then schedule something promptly because I would like to see this issues move forward, myself, as quickly as we could. That would be my suggestion.

Committee Vice Chair Chock: Thank you. Any further discussion? Yes.

Councilmember Bynum: Just two (2) things. You initially asked for a posting in Committee some weeks ago to just do that, have everyone present, say this is important, and we were not allowed to do that. Now we are here. I think it is great for us to reconvene later. I thought we could just do it right now, but I hear the consensus of the group. So, I am fine with that. Thank you.

Committee Vice Chair Chock: Okay. We will do that. Then, I would need a motion to adjourn with the intention that we will be back very shortly.

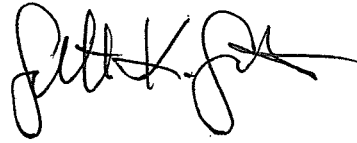
#### ADJOURNMENT.

Councilmember Yukimura moved to adjourn the Council Meeting, seconded by Committee Chair Hooser, and carried by a vote of 3:0:2 (*Councilmember Kagawa and Councilmember Rapozo were excused*).



There being no further business, the meeting was adjourned at 4:25 p.m.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Scott K. Sato', with a stylized flourish at the end.

SCOTT K. SATO  
Council Services Review Officer

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